

UNDERWATER

G 12

GEOGRAPHIC

29

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UNDERWATER PHOTOGRAPHY
STROBE - CAMERA - BOOK
REPORTS

Marine
Mammals
of KAIKOURA

Heron Island
Dive Festival
1990

THE CAPRICORNS
AUSTRALIA'S
EMERALD ISLES

EXPORTED
TO THE
U.S.A.

CHARTER BOAT DIVING
NORFOLK ISLAND
TOY SHARKS

BEGINNER'S
VIDEO

SCUBA
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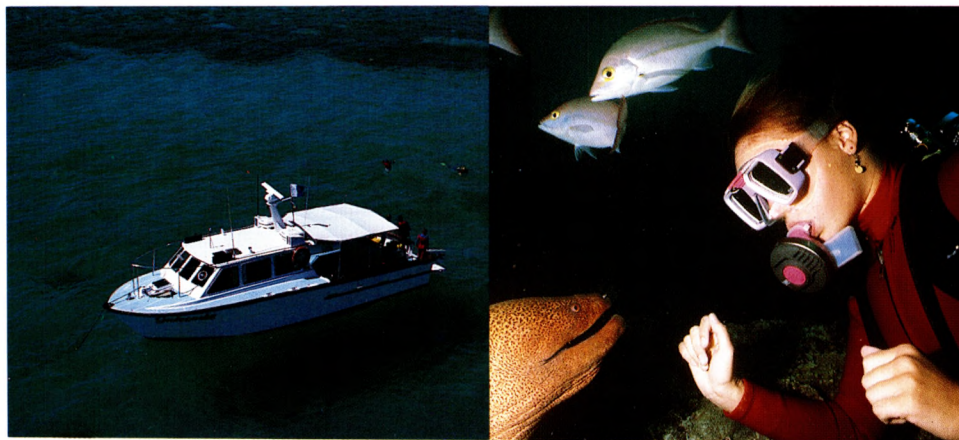
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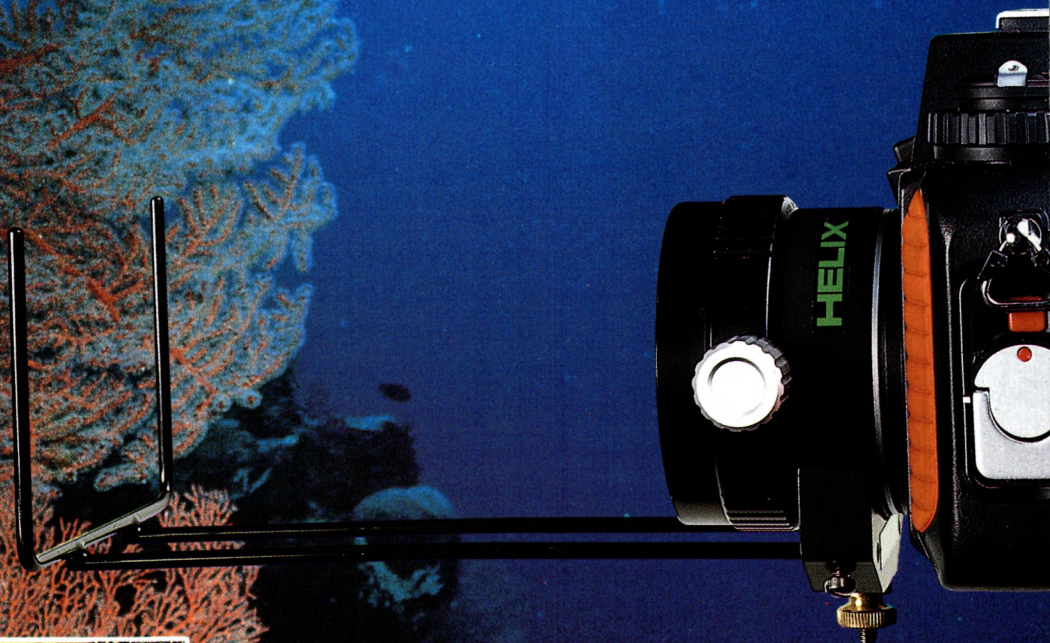
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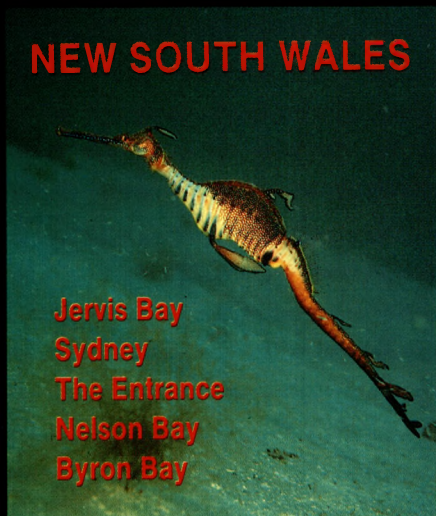
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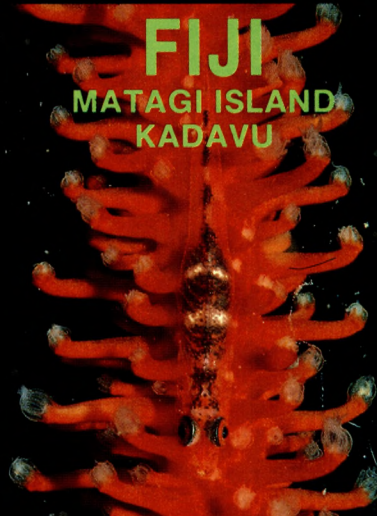
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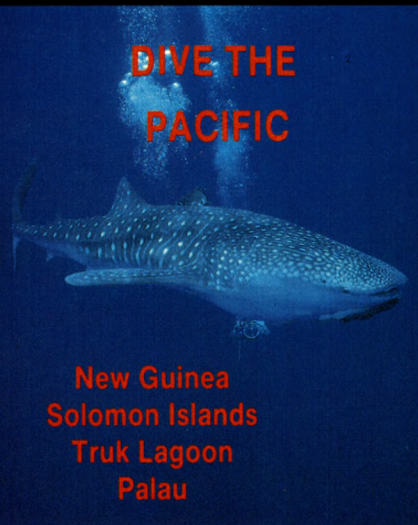
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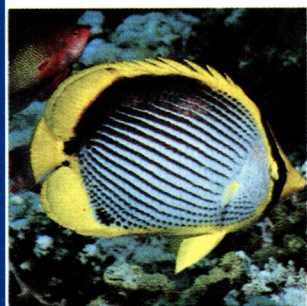
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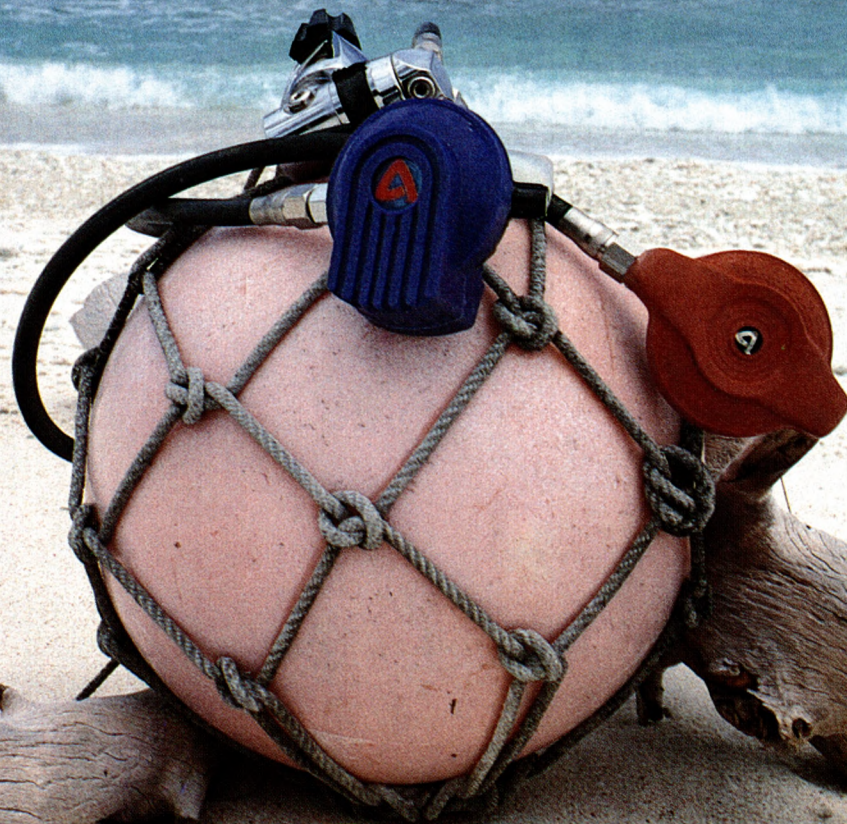
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The Cod Hole, Great Barrier Reef



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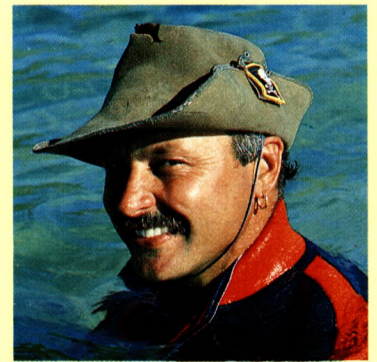
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EDITORIAL



In one of the most recent waves of environmental brochures I have received over the last two or three months there was a heading I found particularly interesting. It stated that "one diver alone cannot save the marine environment" and after 20 years of trying, I must admit they are right!

It would have been great 20 years ago if the instruction agencies had had an environmental outlook. As I've stated before, maybe millions of divers could have benefited from the education and maybe with a strong, educated, motivated group we could have done something really significant. It would have been great 10 years ago, 5 years ago or even 1 year ago, but it wasn't!

It would be easy for me to become perhaps a little dispirited when I see all the emphasis now placed on environmental education by others who have ignored the very same things put forward in the past by others.

In many cases Lord Howe Island, Lizard Island, Norfolk Island, Lady Elliott Island, Julian Rocks Byron Bay, Fly Point, Port Stephens, Moreton Bay Qld, there have only been one or two enquiries to the programmes.

Sea Life Travel certainly pushed the concept in the early eighties and again in 87 & 88 but the diver response was fairly negligible, though one programme in 88 saw 8 divers attend the Lord Howe Island fauna survey. (It took the Army to volunteer at Lady Elliott). However the A.M.P.I. (Australasian Marine Photographic Index) explorer concept in 1980 and again the Underwater Explorer Task Force set up in 1987/88 were dismal failures because all I had to work with was my own resources, enthusiasm, dedication, initiative and understanding of the ocean.

The basic educational requirements needed to forge a worthy participation were already set up. I had done all the work over the previous 18 years. Instruction courses, species identification, guides (by the dozen) a complete facility built just for the purpose of environmental education, yet on a diver participation level it failed, because it was alone, one diver's ideas.

One diver alone, no matter what effort and dedication shown, or proved, even if they are the best in the world, is when it all boils down, almost insignificant.

I believed that because I was keen, it would encourage others. I believed that if I set an example it would encourage others. I believed if I dedicated my life (as I have done for 20 years) it would put a value back into the study of natural things.

We need more underwater naturalists to care, we have to know! We need knowledge of what exists.

Perhaps my past ideas of having a special group of divers in each area of Australia participating in recording and looking after their own piece of coastline, especially in marine park areas, is not just pie in the sky. Perhaps now that our instructor agencies are actively participating in their own environmental strategies these ideas will be resurrected and acted upon.

I really waited a long time for this to happen and I would like to congratulate all the agencies who have sent me details of their specific programmes which I will try to do justice by publishing. After all, that is what Underwater Geographic Magazine is all about, the best I can do alone, is help.

For all those who don't remember, a quote from my editorial in Underwater 1 . . . 10 long years ago . . . Underwater 1 (Sept. 1980).

"I wonder why we are so far behind in our appreciation of the marine environment? Are we too busy watching the rest of the world go by on our television sets to take time out to experience our own natural world? Why is it with one of the longest and most beautiful shorelines in the world we know so little about it? Indeed, scientific institutes have a smattering of knowledge, but what do WE know or CARE?"

Over two centuries ago Australia was discovered by seafaring Europeans who faced the unknown of their time and accepted the challenge of the sea. The frontier of our time is the same sea and its challenge has no more diminished

with the passage of time, for it is beneath the sea that man faces an inheritance of thousands of years of nescience.

To me a diver be she or he a naturalist, photographer, scientist, observer or adventurer, is an explorer. Not just an explorer in another world but an explorer in another concept, in which ideas, techniques, philosophies, languages and ideals are constantly being changed, remodelled and invented.

The sea is only an extension of the land but it makes up 71% of the total surface area of our planet. Yet we call it, earth. We cannot in any way, shape or form ever begin to understand this vast unknown part of our everyday existence by standing at a distance and throwing rocks, or by sticking pins in it to see if it's alive.

Nor can we hope to evaluate the sea and its contents by remote control robots. We must go down and see for ourselves. We must study and observe the creatures and their relationships within the total overall balance of life as we know it. It must be realised that the land, the air and the sea are all one gigantic system, all related, all connected, all dependant and all important.

Perhaps we need more than a cold, calculating, scientific approach. Perhaps we need to be encouraged by more effective visual communication. Perhaps we need some 'sweet talkin' before we can learn to appreciate what is ours by inheritance. If we have to be seduced into loving and caring for our own then that is what UNDERWATER is all about and that is what I am about".

Hopefully, it will now become, what we're all about!

Kevin Bodeman



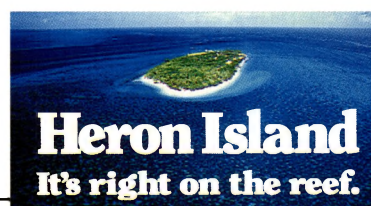
After the dive you can listen to fish talk.

It's an interesting week for | untouched parts of the reef. After you surface, you'll attend seminars featuring guest speakers like Reg Lipson, renowned marine biologist; Neville Coleman, famous naturalist and principal of the Nikon School of Underwater Photography; Walt and Jean Deas, underwater filmmakers and many other speakers covering a host of special interest topics. You'll meet Australia's

most famous diving couple, Ron and Valerie Taylor. And to top the week off, there's great entertainment every night.

Book your place at the Heron Island Dive Festival by contacting Dive Adventures, Sea Life Travel, Allways Travel, your Travel Agent or contact P&O Resorts direct (07) 268 8224.

You can go diving twice a day. Try night diving or take an adventure dive to remote and



THE CAPRICORNS AUSTRALIA'S EMERALD ISLES

HERON ISLAND 1989 DIVE FESTIVAL

Neville Coleman, Jean Deas and Reg Lipson at the 1989 Heron Island Dive Festival. Photo Sandi Smith.



Like a negligee slipping from the shoulders of night, the dawn unfurled. The air crisp with silence as the pungent vegetation, still glossy with moisture, greeted the first glowing rays of a new day. Wavelets meandered along the white coral sand, as crystal clear waters spent their last feeble energies on timeless tidelines soaking through the sand grains and trickling back from whence they came.

No matter how many times one meets a new day the excitement is still the same, bathing in the pure reality of existence and the radiance of being alive.

But this was no ordinary day and no ordinary place and the last weeks activities were far from ordinary.

Since the Heron Island Dive Festival had been re-activated some 3 years previous, it had met with varying degrees of success due to teething problems of organising such a mammoth event.

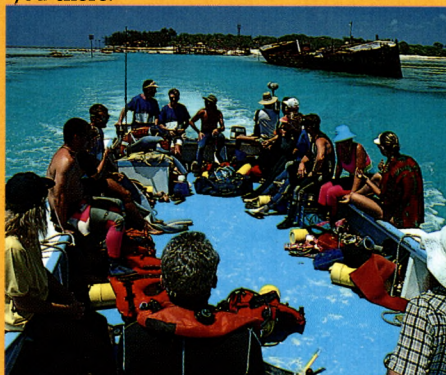
In 1989 Festival certainly laid all the other years to rest and became the forerunner for what is undoubtedly a world class event for divers.

My original suggestion to the management of Resort P & O was an Underwater Festival week combining educational seminars, audio-visuals, films, free photography

workshops and underwater photographic competition with a diving holiday, all at the one venue.

Due to the efforts of all concerned the entire week was a huge success and a special vote must go to James Baillie, the Heron Island Dive Festival manager, whose personal interest has seen the festival surpass its original expectations.

For those who don't want to miss out going to the 1990 Heron Island Dive Festival, the following 1989 programme gives an indication of the speakers and format. See you there!



From island to dive site only 5 to 15 minutes.

What's Beneath the Surface?

HERON ISLAND

Heron Island is an evergreen coral cay some 72 kilometres off the coast of central Queensland - actually formed by the Great Barrier Reef. The area is such an important part of Australia's national treasures that it carries National Park and Marine Park status. Heron Island is one of Australia's most celebrated dive locations and with International Resort facilities, it's quite simply . . . "the last word in diving!"

THE FESTIVAL

Of course, the Festival is all about diving! There will be three dives daily to the famous Heron and Wistari Reefs, taking in all the fantastic locations which have made Heron famous throughout the world. There will be daily adventure dives to remote Reefs and Islands taking in fabulous untouched destinations such as Lamont, Sykes and Fitzroy Reefs.

Night dives will be scheduled each evening - a truly unforgettable experience. And, of course, for those who don't dive, our professional "Scuba" school is available.

THE SPEAKERS

NEVILLE COLEMAN, Curator of the Australian Marine Photographic Index, photographer, author of many books, producer

and editor of "Underwater Geographic" magazine, principal of the "School of Underwater Photography" and naturalist. Neville's interests in marine life go back to when he was an ardent fisherman and aged 10 had an ambition to be a pirate and explorer. He took up lithography on leaving school and diving in 1963. Since then Neville has had a life of adventure and hard work as attested by his many publications. He will be running the "School of Underwater Photography" during the festival.

WALT AND JEAN DEAS, underwater filmmakers, authors and still photographers. Walt first began diving in 1950 in Scotland, using adapted gas masks, for masks and long-john underwear as suits in 8°C water!! His many publications include "The New World" an introduction to underwater exploration and sport, "Australian Fishes in Colour" and "Seashells of Australia". He co-authored with his wife Jean, "The Natural Life of the Barrier Reef". Walt was one of the main cinematographers for "Life on Earth" with David Attenborough, and since then Walt and Jean have made "Where the Fish are Friendly" (filmed on the Heron Island Bommie). You'll see all their latest and more at the Festival.

REG LIPSON. Humorous, educational and entertaining, Reg is one of Australia's best known diving personalities. Reg's appeal derives not only from an amazing knowledge of marine creatures, but especially from his understanding of the relationship of their strange behaviours to that of man. Reg invariably leaves his audiences laughing but completely enraptured.

BOB THOMAS graduated from the University of Queensland in 1969. In 1970 he was posted to the Royal Australian Navy's School of Underwater Medicine. In 1972 he co-founded the diving medical centre in Sydney, this probably being the first centre for civilian sport and professional divers in Australia. In 1973 he was made the officer-in-charge of the school of underwater medicine. Bob has co-authored two books, the most widely read being the "Divers Medical Companion" as well as having many articles published in diving journals and magazines. His present concerns relate to increasing the training of undergraduate and post-graduate medical personnel in diving and hyperbaric medicine.

DIVE PROGRAMME

DIVE SHOP TIMES:

7.45am, 5.30pm

DIVE TIMES:

8.30am, 10.30am, 1.30pm, 3.30pm

ADVENTURE DIVES:

9.00am departure, 4.30pm return

NIGHT DIVES:

TBA departure, 9.30pm return.

SNORKELING TIMES:

9.15am, 11.00am, 2.15pm, 4.00pm

DIVE BOATS:

Shearwater (max. 16 divers)

Diver (max. 16 divers)

Noddy (max. 16 divers)

ADVENTURE DIVE:

Gatcombe (max. 12 divers)

NIGHT DIVE:

Shearwater (max. 12 divers)

SNORKEL BOAT:

Stessel (yellow canopy)

(max. 18 snorkelers)



Fly helicopter to Heron Island and see fantastic views of the reefs.



Gary Bell with his Aquatica amongst the Heron Island Hussars.

DEPARTURE LOCATIONS

SHEARWATER, DIVER, NODDY

DAY TRIPS:

- * Divers are to meet at the dive flag, which is situated at the beginning of the jetty near the helipad.
- * Please be aware of arrivals and departures of helicopters.
- * Arrive with gear 5 minutes prior to departure.
- * Tanks and weight belts with weights will be provided on all boats.

ADVENTURE DIVES: (Gatcombe)

- * Divers are to meet at the head of the jetty 5 to 10 minutes prior to departure time.

NIGHT DIVES: (Shearwater)

- * Divers are to meet at the head of the jetty 5 to 10 minutes prior to departure time.

NIGHT DIVES MAXIMUM 12

Night dive bookings may be made in the Pandanus Lounge. Names must be placed by 1.00pm on scheduled day of night dive.

All night dives depart from the head of the jetty (i.e. the far end of the jetty).

Departure times will be placed on booking sheet, so take note of that time and arrive at least 10 minutes prior to departure.

Night dives must be confirmed by 5.00pm at the Dive Shop.

Meals will be served in the Dining Room prior to the evenings dive.

Night dives are weather dependant, so please check with us at 5.00pm at the Dive Shop.



Sandi Smith from Florida, U.S.A. took out first prize in the Underwater Water Photography. Sandi looks as good in the water as her pictures do out!

PRIZES

The following prizes have been kindly donated for the 1989 Heron Island Dive Festival

- P&O Resorts Pty Ltd
- 1 Heron Island Holiday for 2 for 3 nights
- Heron Island
- 3 Dive Heron T-Shirts
- A-Mart
- 1 Tabata Mask & Snorkel
- Cape Byron Imports
- 1 pair Mares Plana Avanti Fins
- Divers Supplies Pty Ltd
- 2 pairs Beuchat Fins; 2 Discover VSI
- Octopus Regulators; 3 Della Tote Bags;
- 2 Della Aquablade Knives
- Land & Sea Sports Pty Ltd
- 1 Mask/Snorkel
- 1 Dive Knife
- Williams Collins
- 1 Exploring Australia Great Barrier Reef Book
- Sport Diving Magazine
- 1 12 month subscription "Sportdiving in Australia and the South Pacific"
- Scuba Diver Magazine
- 1 12 month subscription "Scuba Diver"
- Tabata Australia
- 5 Seetime Masks; 5 Bermuda Masks;
- 10 Mini Splendive Masks; 20 Tonga Snorkels
- Sports Suits of Australia
- 1 MK3 Hawaiian Lycra Suit;
- 1 Hawaiian Lycra Sassy Suit;
- 1 MK3 Lycra Suit
- PADI Australia
- Encyclopaedia of Recreational Diving
- Pelican/Sea Optics
- 1 Sabrelite Torch
- Sea Suits
- 1 3mm Wetsuit

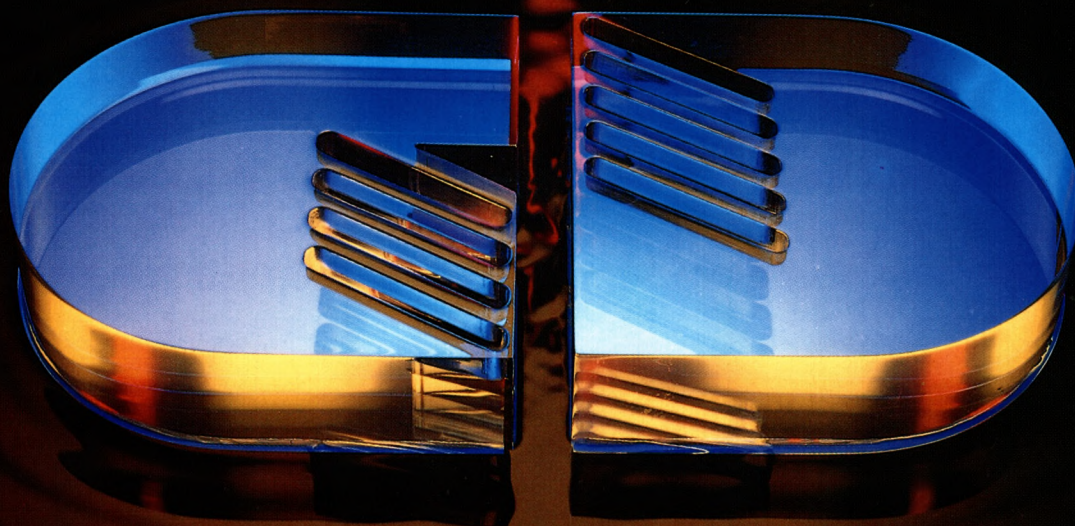
PRIZES

UNDERWATER PHOTOGRAPHIC COMPETITION

- Neville Coleman's Underwater Geographic Magazine
- 4 12 month subscriptions to 'Underwater Geographic' magazine
- 4 'Shells Alive' books by Neville Coleman
- 1 'Australian Sea Life South of 30°C' by Neville Coleman
- 4 'Beginners Guide to Underwater Marine Biology' by Neville Coleman.

The Heron Island Dive Festival is a real fun affair. Lots of good companions, good diving and good food, all tempered with light hearted entertaining audio-visuals, videos and films by which you can learn more about appreciating one of the world's greatest natural wonders, the Great Barrier Reef. This years Dive Festival is bound to be the best yet, 10th - 17th November; join us and the turtles - dive into natural history and discover the wonder of watching.





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Lady Elliot fore shore!

By Neville Coleman

To the casual observer, reefs may be reefs, trees may be trees, resorts may be resorts, people may be people and life, may be life . . . yet each individual life form and sea scape structure is unique. So it is with the islands of the Capricorn group, on the Great Barrier Reef. Each island and each reef has its own brand of uniqueness and to the average keen diver, snorkeller, reef wader or beachcomber these are places they love to return to time and time again.

Unlike most of the excellent boat only access reefs throughout the Capricorns, Lady Elliot Island has quite a large area of diving and snorkelling sites which are accessible to the shore based diver. Many of these sites are inhabited by creatures which are rare or non existent at other dive sites.

Even when matched against dive sites 1000 kilometres to the north - places like the Anchor bommie and the lighthouse bommies are excellent dive sites, with heaps of species I've never recorded from anywhere else throughout the entire Great Barrier Reef.

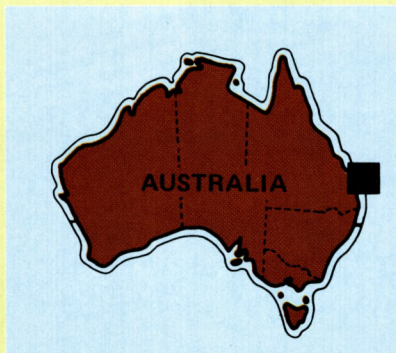
In this day and age of luxury dive boats, giant catamarans and more and more emphasis towards the lighter side of diving, the art of shore diving after falls into neglect, and/or has never been experienced or sufficiently trained for. There are many points to shore diving which rarely come up when boat diving, and it is these that can become safety hazards if they are not understood, remembered or practiced.

Shore diving off the front reefs at Lady Elliot Island can be successful from either the lighthouse bommie entry or the Anchor bommie entry. Of course at low tide during calm seas one can walk out to the reef edge and enter at many other places as well but exits are not always easy due to lots of fragile table coral. So it is best to work by the well known methods and keep to the recognised entry and exit points.

There are lots of considerations to take into account when shore diving in the tropics. Most are common sense, but all are necessary when it comes to the safety aspects and survival planning of a dive. Heat and physical exhaustion are realities of the tropics and must be understood as such.

THE DIVE SHOP

Lady Elliot Island dive shop has an excellent range of equipment, air filling services and well trained instructors and divemasters to assist in any way. Dives are booked at the shop for specific times, tanks and weightbelts are taken by four wheel drive vehicle to the side entry. Divers have free access to rubber tyred trolleys in which they



can wheel any gear or camera equipment on their leisurely stroll to either end of the dive locality. Depending on the tide, current and mood of the ocean the divemaster selects the best entry and times for each day.

From the Dive Shop to the entry point is generally no more than a 10 to 15 minute walk on flat terrain, either down the airport runway for the Anchor bommie and Coral Gardens etc. or across the airport and down the lighthouse road for the lighthouse bommies.

It's always more sense to wheel gear and wetsuit jacket down and put it on at the site. The sun can be very hot sometimes and heat exhaustion is easier to experience than most people realise. Always wear a wide brimmed hat and sunscreen as it may be up to half an hour to an hour from arriving at the dive shop to sinking beneath the surface.

DIVE SITE ENTRY

Once at the dive site entry, check with your buddy as to your dive plan, organize an entry



plan, gear up and holding mask and fins proceed to walk out through the shallows of the reef causeway to the reef edge.

On the way out it is uneven ground, there are small bounders, knee-deep pools, rubble and reef clumps to negotiate so wet suit boots are a must.

If cameras are being carried, extra care is needed, especially if there are swell breaks coming over the reef. At a point deep enough to snorkel or just before the edge, don fins and mask while using your buddy as a 'steady' and performing the same service for them in turn. Snorkel out over edge, continue the dive.

DIVE SITE EXIT

Always plan the dive to include enough air in case of tide change, current change of sea conditions. Of course in good conditions it is a simple matter for a diver in average physical condition to snorkel out and in on the surface. But at other times the surface wind and/or waves make swimming on the surface with BC and tank more than a match. Plan to return to the entry points as they are the easiest places to exit in all conditions.

At high tide of course it doesn't really matter as there is enough water over the reef platform to swim right into the beach.

All the dive sites are alive with fish, well over 1000 species have been recorded from the Capricorns. The coral formations at Lady Elliot are exquisite with some of the nicest table-top coral I've ever seen, acres of wonderful terraces, huge circular platforms. Swim throughs, gutters, bommies, turtles, manta rays and a giant maori wrasse, butterfly fishes, angels and fairy basslets, leopard sharks and huge prehistoric looking shark rays out on the sand, it's all there.

Since my first visit to Lady Elliot Island many years ago, the entire facilities have been updated and refurbished bringing it into line with modern resort premises. The dining room with self-serve smorgasboard styling suits the lay back atmosphere and the food is excellent. Bar and service is well stocked and maintained and the reading library, self entertainment room has a good range of books, videos and games for the kids. The outside drink and confectionary bar has lots of mouth watering nibbles and the gift shop sells an impressive range of souvenirs.

Accommodation is by way of prefab self-contained units, log cabins, or tents, depending on the whim of the wallet. Lady Elliot Island caters more to the get away from it all adventure rather than to the luxury market. It's a beautiful little natural sand cay with lots of trees, a unique sea bird nesting site (protected area), lots of good diving, snorkelling, beachcombing, birdwatching, reef-walking and all hosted by the French family whose concerns for this little piece of paradise is matched only by their courtesy and goodwill. On a scale of 5 out of 5 I'd give Lady Elliot, a 10 plus!



Tooth-edged chromodoris (size 35mm)

Bird rookery at sunset. Silent shadows silhouetted against a sky of gold, screaming for possession.

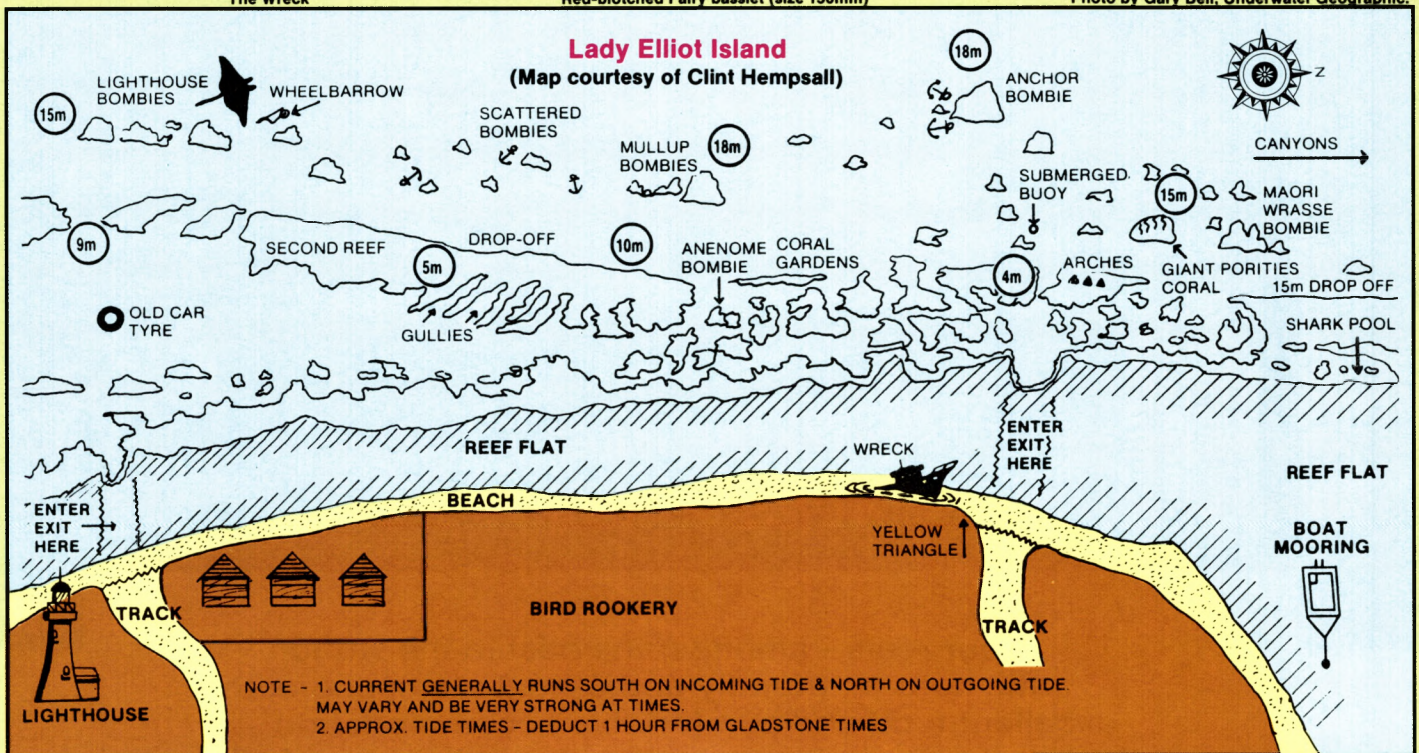


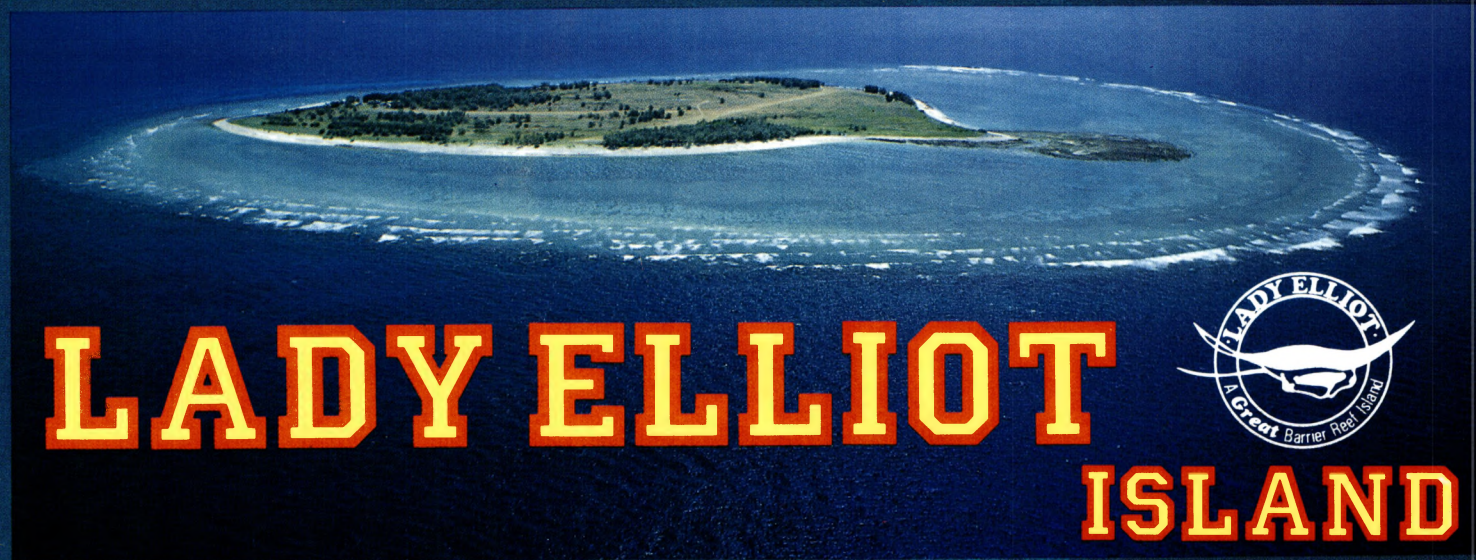
The Wreck



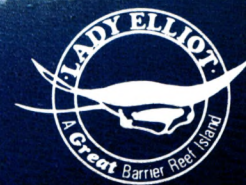
Red-blotched Fairy basslet (size 150mm)

Photo by Gary Bell, Underwater Geographic.

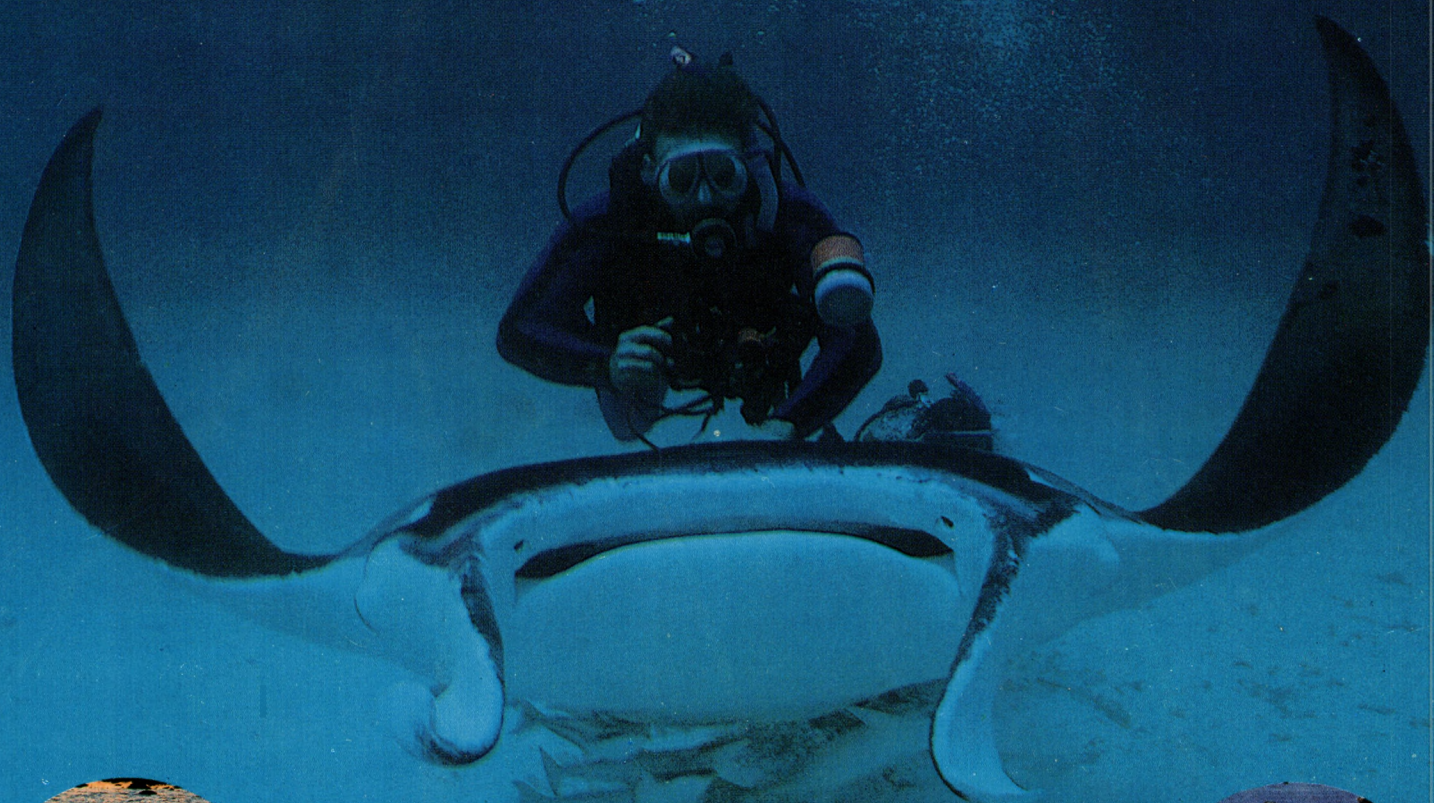




LADY ELLIOT



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*a Peter Allen
AQUA-PHOTO*



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“Message from Musgrave”

CONSCIOUS CONCERNS

Photos by Kathy & Tony Tubbenhauer.

Dear Sir,

I have become concerned about the day to day management of Lady Musgrave Island and reef. I understand that the resources of The Department of Conservation, Parks & Wildlife, like most, are stretched and also because of its remote location, it maybe difficult to give this island and reef the attention necessary to retain it in prime condition. As Captain of the M.V. Lady Musgrave, I visit it taking tourists on day trips, usually four days a week and during holiday time, seven days a week and in four years have had over 50,000 tourists visit the island. This letter is not written to be critical of the Department, only to make suggestions which maybe of benefit to the island and reef.

I do not think the island is being visited by Department Rangers as often as it was formerly. I feel regular visits by

Rangers in uniform are necessary. Now camping permit fees have been imposed, could a Ranger or an Honorary Protector be on the island for an extended time during the busy season? Perhaps among students doing Honors, P.H.D. etc., there could be found people who could be appointed Protectors and could spend some time there. Proprietors of Lady Musgrave Barrier Reef Cruises would be prepared to carry such persons and their gear to and from the Island free of charge. The Company is also prepared to carry free of charge, Rangers on day trips.

I feel that camping numbers should be set at not more than 30 to 35 maximum on the island at any one time, and particularly during turtle and bird breeding season. Also I feel an upper limit, say 200 to 250 should be set now for day-trippers, considering that Lady Musgrave is one of the few where

day trip passengers get to walk on a coral cay. There must be a fine line between the number of people visiting and what the island can stand without destruction of its natural beauty.

Day passengers do not often use the campers' toilets, but I am prepared to put on the island out of sight amongst the trees a fibreglass portable toilet to be removed each day and emptied on the mainland.

Company policy is not to carry spearguns, generators and freezers. In the interests of preservation and conservation of the area, other operations should not do so either. Visiting barges carrying campers run onto the beach or shore at high tide, leave motors running and cover the coral with sediment.

“This should be stopped.”



I have heard that there is a proposal to run camping trips to the island, possibly taking up 25 of the 50 maximum. This should be looked at very closely — maybe one-third of the total limit.

I feel it important that the groups of university students that camp should have a person in charge as I have observed some very dangerous boating practices by these groups and have had to rescue some of them. These practices are likely to result in loss of life.

Shell collecting should be by permit only. Generally, shells taken live from the sea are discarded as soon as they begin to smell. I think G.B.R.M.P.A. regulations for areas not totally closed allow the taking, except for specified species — 5 of each species per person per day. At Musgrave, we tell the day passengers that it is illegal to take anything, which is not the truth, because outside the closed area they could take

some things. This should not be necessary — We should not be in this position. Lady Musgrave Island, lagoon and reef should be under complete protection. Anyone who knows the zonings could legally bring on board a large number of live shells as there are many species on the reef flat in shallow water, and there is not much we could say.

Because we feed the fish around the pontoon in the lagoon it should be a designated special no fishing, no spearing area with signs erected saying so. Similar to the closure of John Brewer Reef after the floating motel was removed.

When all year camping was first allowed, total people/nights were around 2000 annually. The figure has increased to 9000 or more. The imposition of fees should be bringing in sufficient money to enable rangers to be on the island more often. This, added

to occupants of visiting yachts and the number of day visitors surely should require more protective zonings for the island, lagoon and reef.

We must try to take care of this reef as well as others along the entire length of our great barrier reef. It is ours, but we must use it wisely.

Yours faithfully,

*George Christensen
Captain — M.V. Lady Musgrave
Bundaberg.*



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UNDERWATER GEOGRAPHIC PLAIN AUSTRALIAN PRODUCT REPORT

WITH NEVILLE COLEMAN



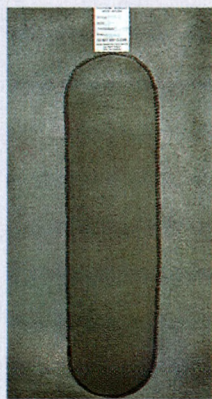
SEASUITS (Aust) 'BODYLINE' 3m Diamond Thermo-Plush Lining (1 piece)



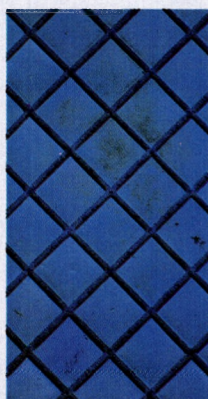
PHOTO BY GARY BELL, UNDERWATER GEOGRAPHIC



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■ Excellent ■ Good ■ Fair ■ Not provided

Looks
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This suit appears very well made and over the period of testing (1 week) I found it certainly excelled in most ways over my usual one.

As it was my first time wearing a one piece I did have extreme problems

getting it on and was unable to get it off by myself. Apart from the style (which may be excellent for others but does not suit me) I found the suit to be at least 25% warmer than my conventional suit and if I can get one in a two piece, I will certainly change my brand. This must be the definitive "buddy suit".

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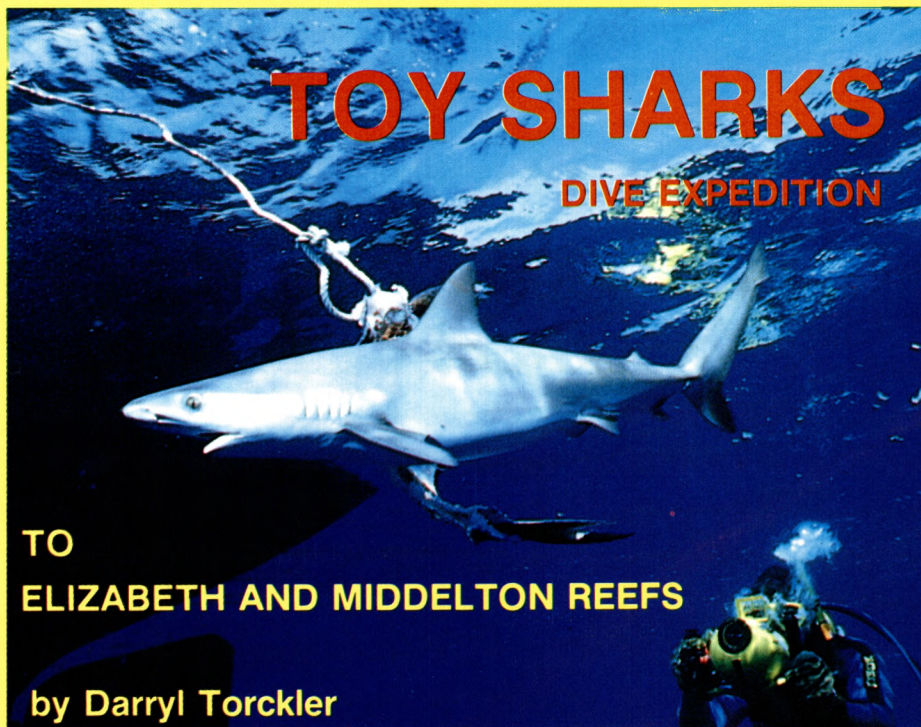
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TO ELIZABETH AND MIDDLETON REEFS

by Darryl Torckler

We were lying in the water on the dive platform, with our masks and snorkels on, watching and filming the action. Often we had to push the cheeky sharks away as they tore at the bait hanging off the stern, which was less than 1.2 metres from the dive platform. One of the divers on the platform was very brave, as one of the sharks swam by, he grabbed its tail and successfully pulled a struggling snapping shark out of sea by hand. WOW! — we thought — as the brave or maybe slightly crazy diver chucked the shark back into the ocean. A few of us divers who had nerves of steel slowly slid into the blue waters to film the feeding activities of the 30 sharks under the dive boat. The sharks would cruise past very close, and would try to approach us from behind, we often had to push them away in order to focus our cameras on these eating machines.

These sharks were huge at a massive 60 cms in length, the largest seen was about one metre long. Yes it was really thrilling, knowing that they couldn't do much damage, and have the excitement of diving with numerous sharks.

These were the *Toy Sharks* of Middleton and Elizabeth coral reefs, in the Tasman sea.

We were nevertheless always on the lookout for the big mumma shark which never came our way.

We arrived at Middleton Reef, after two and a half days of head on seas, 665 kms from Brisbane, on route to Lord Howe Island with the adventure dive motor boat, the *Pegasus II*. The plan was to stop for several days at Middleton and Elizabeth Reefs to explore the underwater world.

Middleton Reef is a small coral reef with a central lagoon with the dimensions of 9.3 x 5.6 kms, compared to some of the large coral reefs in the Coral Sea. This reef

displayed the remains of several ships that had come to grief on this reef, a silent reminder of the danger of these low lying coral reefs.

Our first anchorage was adjacent to a rusty corroding hulk that was sharply silhouetted against the early morning sun rays, named the *Runic*, the largest shipwreck on the reef.

The underwater world around Middleton Reef is very different to reefs in the Coral Sea. There are no vertical drop-offs, the bottom slopes gently and there were no brightly coloured soft corals, sponges or gorgonians. The hard coral was mainly dead, eaten out by what looks to be a plague of crown of thorns starfish, there were odd live patches of coral here and there. The crown of thorns were everywhere, and must have been hard up for their usual diet of hard coral, as it was the

What a buzz!
Feeding sharks at the stern of the dive boat.

first time I had ever seen crown of thorns eating fleshy brown soft corals. And there were scores of them crossing large tracks of sand searching for new feeding grounds.

The exhilarating and most memorable dives were with the *Toy Sharks* and the *Gropers*. We learnt about these spotted black gropers before we could even do our first dive. There was this keen fisherman — Fred, who had his line over before the divers had thought about diving this isolated reef. Minutes later an elated Fred had this huge fish. The fish finally surfaced, a large spotted black groper about 1.2 metres long. Our marine biologist, quoted that these are a protected fish, the marine biologist's partner — Linda, pleaded for the fish's life and poor old Fred who thought he had a wonderful fish for dinner, being one of his biggest ever fish caught, finally but reluctantly agreed to let the fish go. Linda wasted no time in jumping into the sea with a scuba tank and bathing suit, she hugged the big fish while the hook was removed. Once it was removed, Linda took the fish down to 20 metres to its normal depth. One very lucky and grateful groper.

Later in the day we dived the same area to do a groper feeding photographic session. At the dive site, fishy goodies were draped about and the waiting game started. Blue fish started to feed, followed by the *Toy Sharks*, who tore into the fish with much gusto, with a grinding snapping sound or breaking bones.

Towards the end of the dive as divers started to disappear from the lack of air, two large 1.2 metre gropers suddenly appeared and snatched the goodies from under the toy sharks, these sharks all vanished when the gropers arrived. The gropers gobbled up everything in sight. They slowed down once they were full and



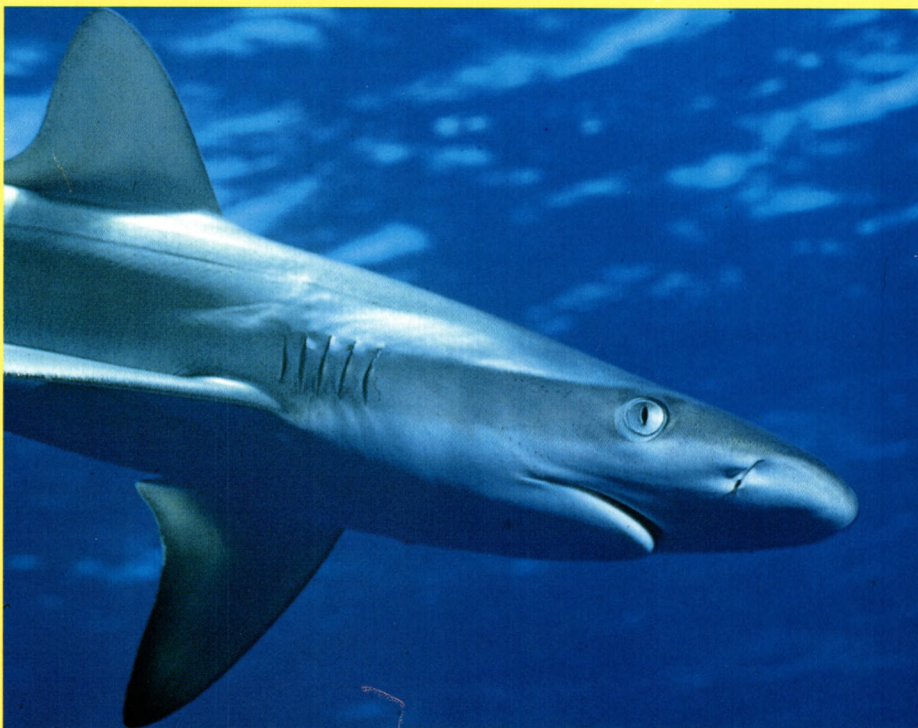
The "*Runic*" the largest shipwreck on Middleton Reef.

we were able to reach out and touch the large animals.

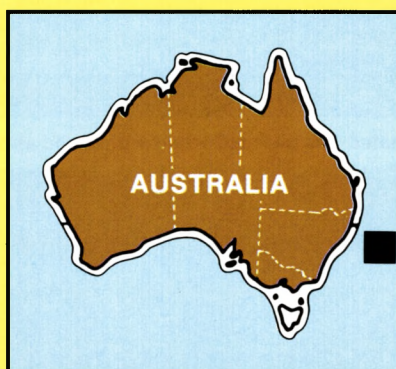
Elizabeth Reef

Elizabeth Coral Reef is 56 km to the south of Middleton, a similar sized reef to Middleton at 8.4 x 5.8 kms and had only one obvious shipwreck up on the reef. The underwater terrain was comparable to Middleton Reef, although the diving was a little deeper, the deepest I could find was 40 metres after a lot of swimming out from the reef, at Middleton the deepest was 30 metres. Elizabeth still had the same sloping characteristics, with a gradual sloping barren bottom, the crown of thorns were still evident, but not in the epic proportions of Middleton Reef. The fish life was equivalent to its northern sister with lots of Toy Sharks again, but very few spotted black groper. Elizabeth Reef is only 185 km north of Lord Howe Island, unfortunately fishing boats must have fished most of the groper out.

When I first did a dive at these reefs and saw a barren dull seascape, I really wondered what am I doing way out here. Apart from the Toy Sharks and the gropers, that made the diving worth it, the fish life was very easily approached for photography, they did not have a lot of places to hide, so everything was out in the open. We saw yellow trumpet fish courting doing some beautiful ballet movements, an orchestra could almost be heard playing to their movements. The other recognisable mobile marine life — In the small grottos, cracks and caves were many speckled moray eels, painted morwongs, magpie morwongs, yellow banded perches, porcupine fish, coral trout and cardinal fish. Drifting over the tops of the reefs were coral fish, McCullochs anemone fish, wrasses, double head wrasses, hawk fish, tropical octopus, groper, one spot demoiselles and in the shallows were many surgeon fish and grey and yellow drummers. In the mid water divers often saw blue fish, N.Z. kingfish, almaco jacks, trevally and of course sharks.



Close up of one very cheeky Galapagos Shark, the commonest species on the reefs.



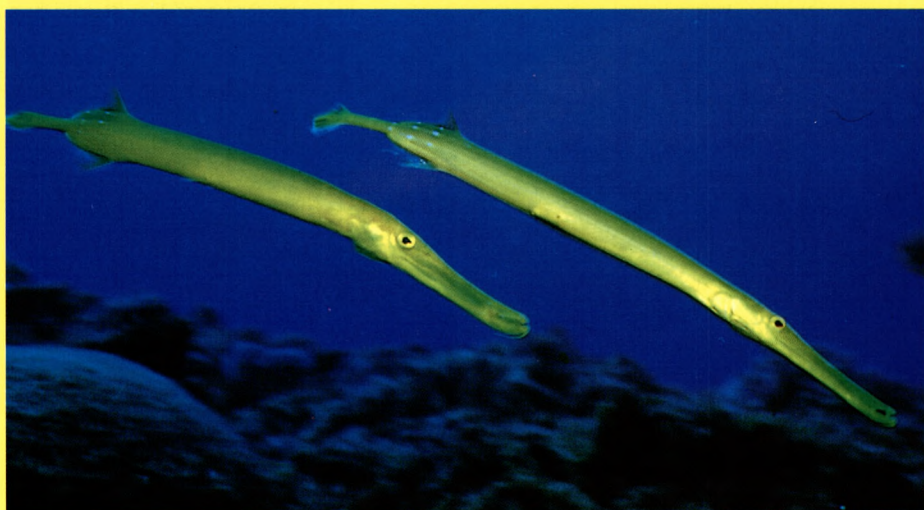
The night dives in the lagoons were amazing, there seems to be nothing there during the day, but at dusk the place comes alive with huge spanish lobsters

wandering across the bottom, ungainly spider crabs, large fast moving hermit crabs, small lacy shrimps, unmoving stone fish, small beautifully red coloured spanish dancer nudibranchs and many more goodies. Plus a real neat unusual little polka dot eel that is white with brown polka dots, about 1.5 cm in diameter and 70 cms long. The only unwelcome guest on the night dives was captured in the torch beam, the glowing eye of a shark about one metre in length. On these night adventures we easily finished our films on close-up subjects.

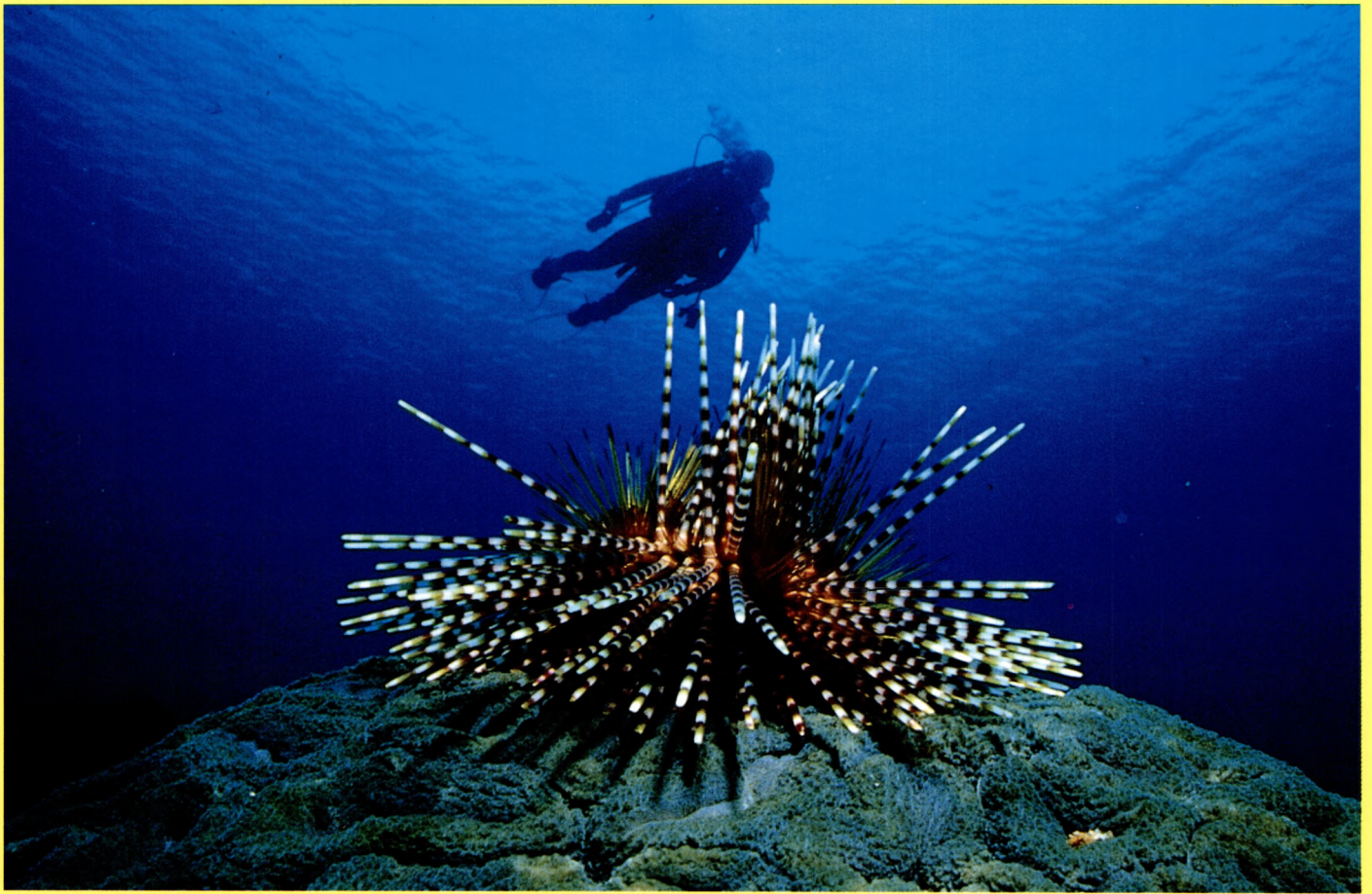
The diving at these reefs was exciting and refreshingly different, with an unusual mix of warm-temperate and tropical marine life, compared with other coral reef dives to the north. That is once we had got used to the barren looking seascapes. The stars of the reefs are the Gropers and the Toy Sharks. The underwater visibility varied between 15 to 30 metres on the outside of the reef and 10 to 15 metres in the lagoons, the sea temperature in November was 20.5°C.

The *Pegasus II* carried on to Lord Howe Island after spending five days at the two reefs.

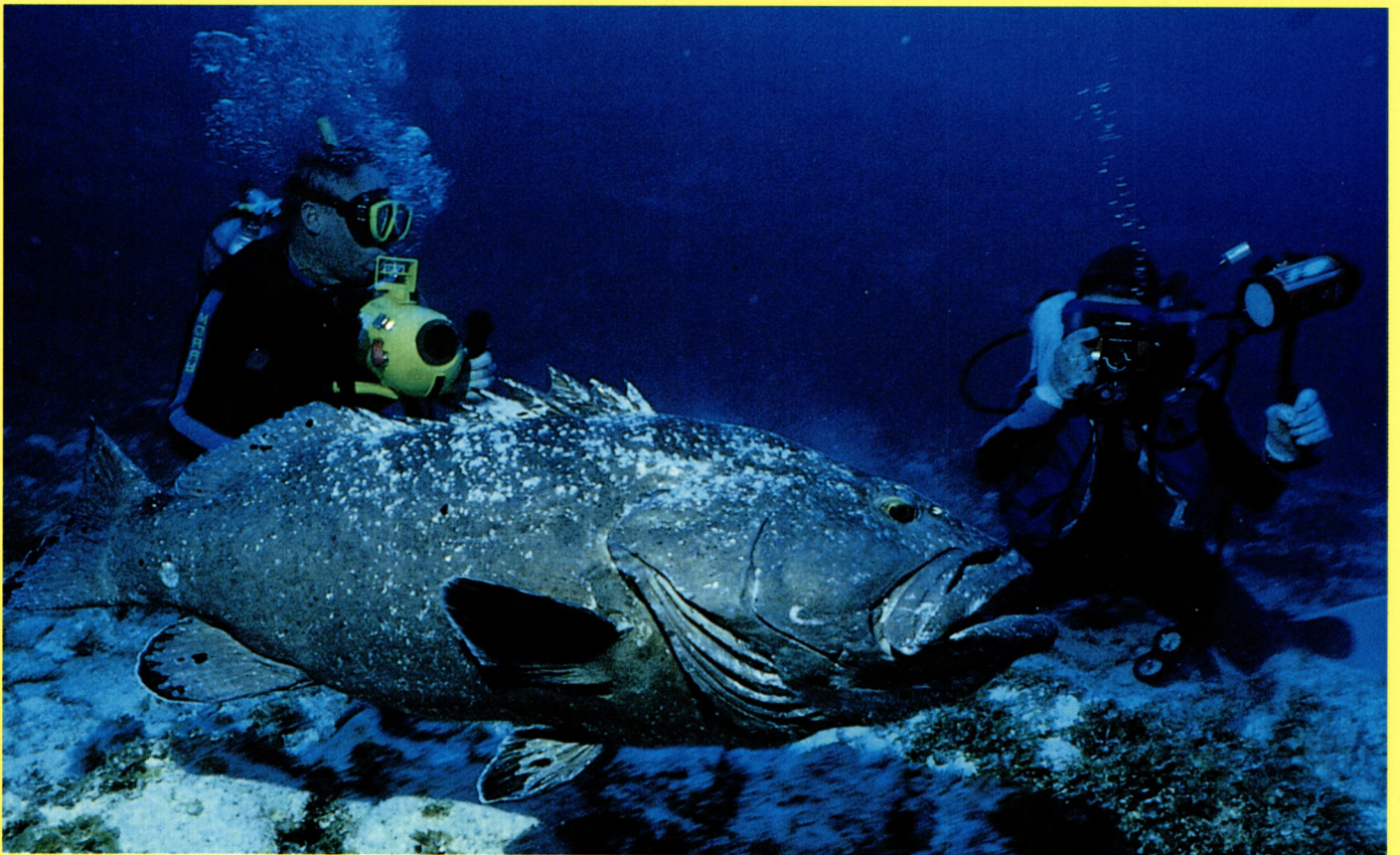
It is not a place that I would recommend a special diving expedition too, but would certainly be a good stopover, if passing near to the reefs on the way to some other destination like Lord Howe Island. The marine life is a lot richer around Lord Howe Island, and only a 2 hour flight away, but it does not have the Toy Shark or the spotted black Groper population. However there are a few spotted black Gropers around the Lord Howe's reefs, but they are few and far between compared with Middleton Reef.



A pair of trumpetfish swimming in unison, quite a rave photo.



Wide angle imagination has created this photo. Certainly dramatic and beautiful but not quite natural.



Black Cod are a protected species, here one provides a close encounter for the photographers.

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Photo: by M. THOMAS, C.U.C.C.

Beginners Video

You Don't Have to Dive Deep

by Ros Orpin

Are you tired of making videos of the same old things? Aunt Mabel coming to stay, or yet another video of the dog, is all very well, but there must be subjects with a bit more of a challenge and a sparkle; aren't there?

Have you ever watched the underwater films of Jacques Costeau or David Attenborough and wished that you could do something as exciting, but don't relish the thought of diving?

Well you can, all you need is your video camera, a Ewa marine bag, mask and snorkel and you too can film the most amazing scenes. Even in this country, there is wealth of life underwater, just a few feet from the shoreline; but for spectacular underwater scenes, you will need to find yourself a coral reef.

There are many places in the world, some quite close to home and others in distant exotic places, where the coral reefs come to within a few feet of the waters edge. So, whilst the rest of the family bask in the sunshine, you can film scenes that will amaze and entrance them without even swimming out of your depth.

I have visited the Maldiv Islands twice in the past and been captivated by their beauty, both above and beneath the water. Having taken some really nice photographs, I was keen to return with a video camera.

The Maldiv Islands are scattered like pearls in the Indian Ocean 400 miles S.W. of Sri Lanka. There are almost 2,000 islands, approximately 200 are inhabited and only 55 are developed for tourism. Most of these are in the Male atoll.

The tourist islands are fairly similar, each has small thatched bungalows simply furnished and constructed of coral rock nestling close to the shore line, a restaurant, coffee shop and bar and a small gift shop selling most things from hand printed tee shirts to sun lotion. The climate is as near to perfect as one could wish, temperatures both on land and in the water average 30°C. If you are keen to dive or snorkel it pays to check how far away the house reef is. Some are a few yards away from the shore line while others can only be reached by boat. Similarly some islands have shallow and safe lagoons perfect for windsurfing and swimming and some have better beaches than others. The size of the islands obviously dictates the number of bungalows and facilities available.



Ros Orpin with one of her video housings.

My destination for the first week of my holiday was Meerufenfushi, right at the top of the north Male atoll and two-and-half hours by Dhoni from the airport. What a breathtaking journey. Stretched out below a shady awning, trailing our hot feet in the refreshing water, we were accompanied by flying fish and playful porpoises, it was the perfect way to see some of the other islands. Each circled by pure white coral sands and varying shades of translucent aquamarine.

Meerufenfushi is one of the largest islands and has a small jungle in the centre which conceals a football pitch. The Maldivians, who are marvellous friendly people are football fanatics and love to play against the tourists so remember to pack your kit if you are a keen player.

Most visitors to the Maldives, however, are entranced by the underwater paradise. The reefs and fish are protected by law and one only has to walk a few paces into the water to be surrounded by brightly coloured fish of every size and shape clamouring for titbits of breakfast toast. All equipment for both diving and snorkelling is available for hire, but it pays to take your own if you can. The Maldives is probably one of the cheapest places in the world to learn to dive and the crystal clear warm waters ensure that it is a most pleasurable experience. Not everyone, however is suited to diving either physically or psychologically and you can, in fact, get just as much pleasure from snorkelling. Most of the colour and life on a reef is within the first few feet of the surface.

Floating effortlessly surrounded by butterfly fish, angel fish, parrot fish and groupers is an exhilarating experience. The fish are totally unafraid and welcome you to their magical world. You do not need to invest in expensive equipment either. Ewa marine bags, which consist of a heavy gauge, flexible plastic bag with a glass port at each end are perfectly adequate; and prices start at around \$200.00

I normally use a Sony V100 Pro, but considered this too bulky and took with me a Sony V90 and Ikelite housing. Although it weights only 19lbs complete with camera, it is quite a large item to carry, but gives excellent results and well worth the effort.

I couldn't wait to start filming and as soon as we arrived at our Island, I grabbed my mask, flippers, camera and housing and staggered excitedly towards the reef. I gently lowered the housing into the water and instantly curious fish swam up to investigate. A quick check that all was well and I was off. I had fitted an Ikelite video eye which replaces the rear extension of the camera view finder and magnifies the image to approximately 1 1/4" across. This makes viewing with a mask on an absolute delight. In fact, I was so impressed I have left it on the camera as a permanent fixture.

The housing handled perfectly, the stabilising wings held it steady and it was quite possible to use just one hand when required. I found it easier to switch all the controls on before entering the water leaving just the record button to operate whilst submerged and this method is 'ideal' for the marine bag, also; leaving just the record and zoom controls to worry about. I had set the camera to macro, tied down the button, and focused underwater on an object 2 - 3ft away. This ensures that it remains in focus to infinity and it is a good idea to mark this setting on the camera, thus enabling one to set the focus before loading the camera into the housing or bag on future occasions.

I had ordered a wide angle converter, which would have enabled me to use the zoom controls, but unfortunately it did not arrive in time.

It was very disappointing being restricted to the macro setting as obviously the zoom control would have expanded and enhanced the filming, but the fish are so used to divers and snorkellers that they literally swim alongside. In fact, the cleaner fish can be a bit of a nuisance, cleaning

masks and lenses thoroughly and persistently. Lighting is only essential if diving fairly deep as most video cameras operate in low light conditions, and various filters are available to enhance colour and reduce glare.

Keep the sun behind you if you can, and don't forget that you can burn very easily whilst snorkelling, so cover up or use a waterproof sun cream. Keep your camera tilted down at an angle to create the illusion of depth and deepen the blue of the ocean. Try to keep swimming **slowly** forward, which will make holding the camera steady a little easier, as will a couple of weights in the marine bag. If you want to linger over a particular shot, anchor yourself to a piece of coral to prevent drifting off at the crucial moment, but always respect the reefs, they take thousands of years to grow and establish and one careless knock from a flipper can destroy hundreds of years of growth. Never touch anything that you are not sure of, some things are toxic or very rarely, even deadly. Take only photographs and leave only bubbles is a well known divers motto. Take care also, not to kick up too much sediment and sand or you will spoil the clarity of your video. Be alert at all times, it is all too easy whilst snorkelling to be so entranced and engrossed by the fascinating underwater world that one is tempted to swim out too far. Always check which way the current is pulling and swim against it initially, using its power to assist you back to base should you tire. Divers always dive with a buddy and I would suggest that for safety's sake, snorkellers should always do the same.

There are numerous books and courses on underwater photography, but not so much on the use of a video camera underwater. However, video film is so cheap that the best way to learn is to have a go, after all, if the results are less than perfect, you can rewind the film and try again. I am sure that you will never cease to be thrilled by this vast new world; and who knows you may want to progress even further and dive with an aqualung in order to enjoy the underwater to the full. Meantime, you will have the most marvellous record of an unforgettable experience which you will be able to share with family and friends. Do remember to edit down to a reasonable length and possibly add some suitable music for interest, half an hour of heavy breathing and splashing isn't that entertaining.

Always rinse and dry your housing or bag carefully before removing the camera and check the clips and o rings or seals regularly. The mating surface for the o ring or seal should be clear of dust etc. and the o ring should be lightly greased with silicone grease.

A bag of silica gel inside the housing or bag helps prevent condensation on the inside of the glass port and some saliva on the outside before you submerge, it will help prevent bubbles from forming. Saliva on the inside and outside of your mask just before entering the water prevents misting up and bubbles forming. It sounds awful but it is a standard practice amongst divers which really works, so no one will think any the less of you.

The Maldivians are Muslim and worry that video tapes might contain pornographic material, so it is advisable to take film sealed in the original wrapper. There is a limited amount of video film available in the Maldives but it is mostly video 8.

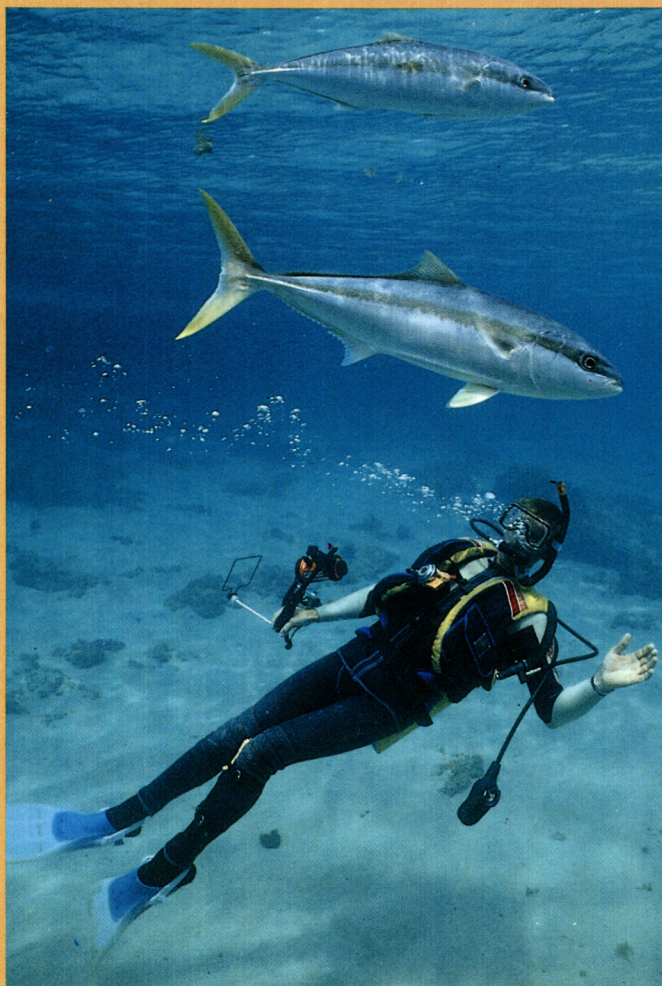
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NIGHT DIVE at NORFOLK



by
Neville Coleman

Every dive is different, that's what makes diving such a buzz, no matter how many times you dive (even in the same location) to those whose eyes are open and searching, the discovery of life never diminishes.

Daytime diving is exciting, but nighttime diving is an outright challenge to all the basic elements our programmed fears bestow on us. Darkness all around and only a thin beam of torchlight slicing through our conscious sight. Out beyond the beam the pure expectation of true exploration, the self discipline of knowing and the adrenalin-charged, spine-tingling, heart-pumping high of facing the unknown.

Yet there are times when the factors of familiarity reduce the apparent risk and the dive site takes on all the aspects of an aquarium where ease of reference points and known seascape enables good scientific photography and natural history observations to be made with maximum efficiency and almost effortless ease.

NORFOLK ISLAND LAGOON

Such a place is the Norfolk Island lagoon. Due to its shallow depths and well protected reef rampart it is a night diver's paradise and a natural historians pleasure. A three hour night dive is not

unusual for an experienced diver and two to two and a half hours the norm. The nocturnal animals occupy many of the same niches that have been vacated by the daytime species.

Snake eels, flounder, soles, Pacific rock cods, prawns, shrimps, scorpionfish, crabs, sea cucumbers, nudibranchs, volute shells, hermit crabs, sea anemones, sap suckers, hard and soft coral polyps, side-gilled slugs, staircase shells, dog whelks are actively foraging.

The numbers of the little brown sea cucumbers (which are only found

beneath rocks during the day) must be seen to be believed, like so many brown sausages they cling with their tube feet all over the bright green grape weed covered reefs.

Using two Nikonos cameras, one with 1 to 2 close-up tube and framer and the other a 35mm Nikonos close-up lense and framer, combined with SR 3000 and Nikonos 102 strobes, I had a possible 72 frames of Fuji 50 I.S.O. to capture the nightlife.

THE NORFOLK ISLAND FAUNA SURVEY

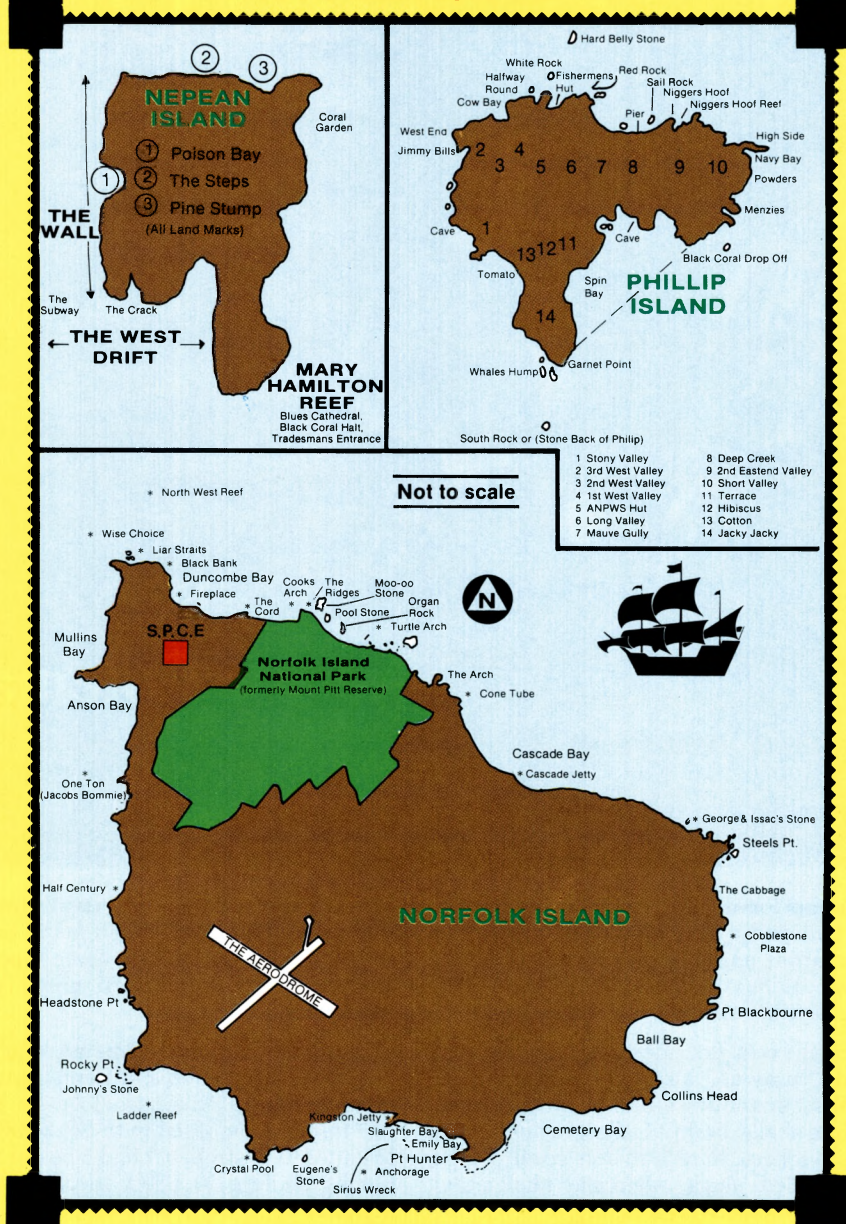
Although all the results are still not collated as yet, a number of significant discoveries were made. Over 250 species have been identified with many new records for the area. Strangely, some species have only ever been recorded from the Indian Ocean before.

One shrimp of which there were only two damaged preserved specimens in the world now has a complete specimen and a colour record of the living animal. It was first discovered from a poison station at Eniwetok atoll centuries ago. Ours was the first ever hand collected and photographed. The survey will continue and a record of the known species listed in the future.



Scabby platydoris nudibranch

NORFOLK ISLAND



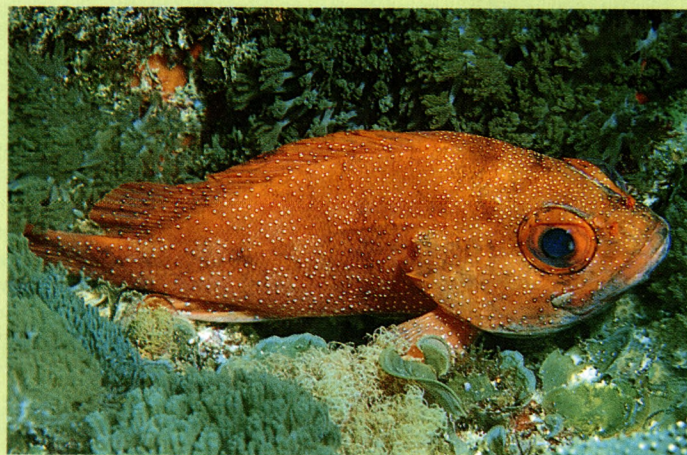
Sailor's eyeballs (single celled algae).



Flower petal chromodoris



Pacific rock cod



Typical self contained accommodation at Norfolk Island is found in the comfortable quarters of Sunhaven Apartments.



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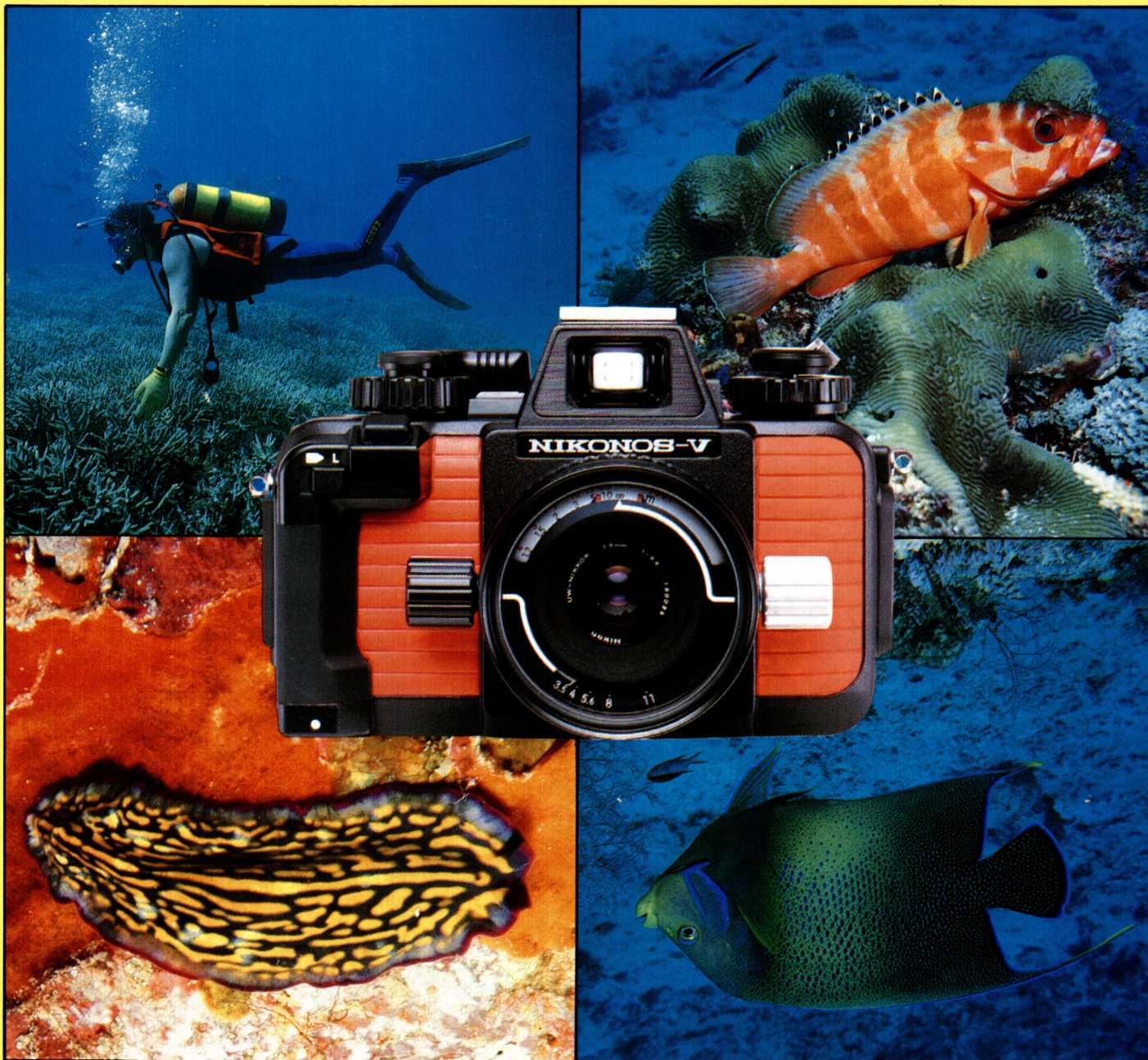
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MARINE MAMMAL MAGIC in KAI KOURA

by SIOUX BENNETT

We knew it was past the whale migration season and a sighting was unlikely. We knew it was really too late in the summer for a glimpse of the tiny, endangered Hector's dolphin. There were enough problems getting a ferry booking for the South Island to put us off permanently. But the lure of Kaikoura's towering seaward ranges, jagged shores and the new opportunity to see dolphins and whales in their own environment under an exciting new part-tourism, part-conservation venture was too strong. We worked around the hassles and hit Kaikoura in early March. It was worth every cent.

About 16k offshore south of Kaikoura the water, nearly 5k deep, sparkled invitingly. The boat load of 10 watched for the first splash — except it was not just one. Several splashes turned to 40 and 50 and eventually a thrilling 400 as the great schools of dusky dolphins, their slim bodies streaked soft grey and creamy white, streamed rapidly through the sea. Pursuing lines of fish for a feed, the dolphins raced torpedo-like just below the glinting surface all around the boat, the force of re-entry after a jump raining splinters of sea skyward. At such times of pursuit, the sleek dusksies can reach speeds of up to 20 knots for short periods. We twisted one way and then the other, eager to catch the dolphins' best moments on film, their incredible movements difficult to frame still. And once they had finished feeding, we were rewarded with breath-taking displays of agility as the dusksies leapt joyfully clean clear of the water, turning belly-up to the sun before splashing back into the sea and resuming their path. As if merely watching was not enough, we were told that

four of us could get in and swim with the dolphins if we wanted. Four of us went mad with delight. Stripping off to togs or simply underwear, we lowered ourselves gingerly over the side into the biting cold of the sea, catching a shivering breath before donning masks and snorkels to look down into the dappled azure depths. It was kind of scary, being able to see on down forever — scary and then thrilling as one of the dusksies zoomed upwards towards you, circled and then raced effortlessly off again. We were told it was really best to keep as still as possible and for optimum dolphin response, to roll over and over. The chill was a bit much to spend sufficient time trying it all out. But to actually be in there with such beautiful creatures and realise *they* wanted to play as much as you, was an unforgettable experience. Onlookers in the boat chuckled at the muffled oohs and aahs that drifted from the swimmers' snorkels. The dolphins, seemingly puzzled at our lack of staying power, fluttered their tails and whisked away.

There was more to come. OK, so it was a bit late to see whales. But we all wanted to check it out, just in case there was one of the giant mammals lurking there and we missed the chance. Off we shot, bouncing high and fast over the slightly swelling sea into the misty distance, the land veiled by thin cloud. We were told to look for a whale's calling card, what would appear to be a little puff of smoke somewhere on the vast horizon. We stared with concentration into the deep blue distance, eyes straining hopefully. *Thar she (or he) blew!* Our boat load exploded with anticipation. For many of us this would be the first live whale sighting we'd every had, certainly the first at

such close hand. As we closed on the "puff" a small hump could be seen, water gleaming on it projecting from the massive sperm whale's back. He appeared to float completely still, resembling a hesitant submarine, most of him submerged apart from the fountain of spray that shot up from his blow-hole at several minute intervals. It was hard to conceive of anything so large and living, calmly floating as if oblivious of our small and noisy presence. Shortly, slowly, the whale began to move downwards and in the greatest characteristic gesture of sperm whales, lifted his solid tail stock up to flick the huge tail flukes high as he proceeded down into the depths, leaving a "footprint", a wide and almost perfect circle of



Sperm whale tail



The fabulous Dusky dolphin, New Zealand's much loved mammal.

completely still water behind. A lone albatross sailed past. There was silence. This was awesome.

The husband and wife team of Barbara Todd and Roger Sutherland did not really set out to create such an impression. They were, explains Barbara, extremely involved with marine mammal research specifically her whale work, and needed more money to fund their work. Going on ideas from overseas and knowing what Kaikoura could offer, they decided to combine a conservation-minded tourist attraction with pleasure for themselves and began Nature Watch Charters, offering boat trips of up to three hours for limited numbers of people per trip. They were hardly prepared for the almost instant success that followed.

"Now we have so many trips booked that we don't have enough time for the research," Roger laughs.

But the money invested must be paying off for the venture to continue. It was no small commitment to decide, after the first few months of operation, that they required a

custom-built vessel to provide the best service. The result was a steel-hulled, wind-shield protected type of zodiac, with sturdy sides, "roll bars" and the zodiac's cushiony sides. Worth around a cool \$70,000 the sturdy boat has already proved its all-weather capability and seats eight comfortably. It's also fitted with a hydrophone, a nifty device looking simply like a black rubber cord with a knob on the end. Lowered into the sea, it picks up the sounds marine mammals use to communicate, sense and find direction and listening to dolphins talk is pure magic. We were all entranced by the sharp shrieks and squeals that came from the hungrily-feeding dusky schools and the mysterious clicking noises from the whale's head used to locate its prey.

What Barbara and Roger provide is a once-in-a-lifetime opportunity to experience a range of what Kaikoura hosts in marine life. The high-speed thrill is just a part of the wonder, exhilaration and laughs.

"For instance, we take people out to see the seals if they haven't time to get to the mainland colony," Barbara says.

"The seals" are a smallish colony inhabiting a steep, rocky island not too far offshore which seems popular for breeding. The day we visit, a mother hisses at us, protecting her tiny baby, hiding from the rumble of the boat's outboards in a shadowy outcrop. While many of the adult seals cavort around in the thick seaweed and tumultuous swells surrounding the island, others have somehow climbed near its perilous summit.

Seals are, however, very much a part of Kaikoura, whether found in more isolated places like the island or in colonies around the coast road. Although they've historically returned to the south of the South Island to breed, more breeding is now occurring in the Kaikoura area. And if the whales are majestic and the dolphins enthralling (even though we were too far out to catch a glimpse of a Hector's) seals are the clowns of the place. They're funny, they're posers and they appear to love attention, provided you don't threaten them. Barbara says they can move extremely fast along all kinds of rough terrain, despite their somewhat clumsy appearance on land, and they have a nasty bite. If you're lucky, a search for seals can also reveal a few other coastal zone treasures, such as the little yellow-crested penguin we discovered, standing alone and apparently frightened to re-enter the water, although he wasn't at all scared at our hesitant approach along the rocks near Kaikoura's main seal habitat.

But the whales have continued to be a prime attraction for nature watch and it's out to the deeps Roger usually heads first on expeditions. Everyone, he grins, wryly, secretly wants to see whales more than the rest.

The sperm whale we found they had named Humpy and had been seen for three weeks in almost exactly the same spot where presumably the food (predominantly squid) was good. Roger estimated Humpy weighed about 50 tonnes and he was about 18m long, bringing him close to the maximum size for a male sperm. The over-sized facts about whales such as this are hard to grasp. Sperm whales can dive as deep as 3000m and remain submerged for as long as two or three hours. They're able to do all this by stopping down some blood flow and their muscles have a huge oxygen storage capacity. But the adaptation I find most amazing is the massive oil reservoir stored in their heads, which changes quickly to wax when the whale pumps cold water in around the chamber before it wants to descend, thus creating a heavy weight to help the process. When the whale wishes to rise again, it simply pumps the water out again, allowing the wax to return to the lighter oil.

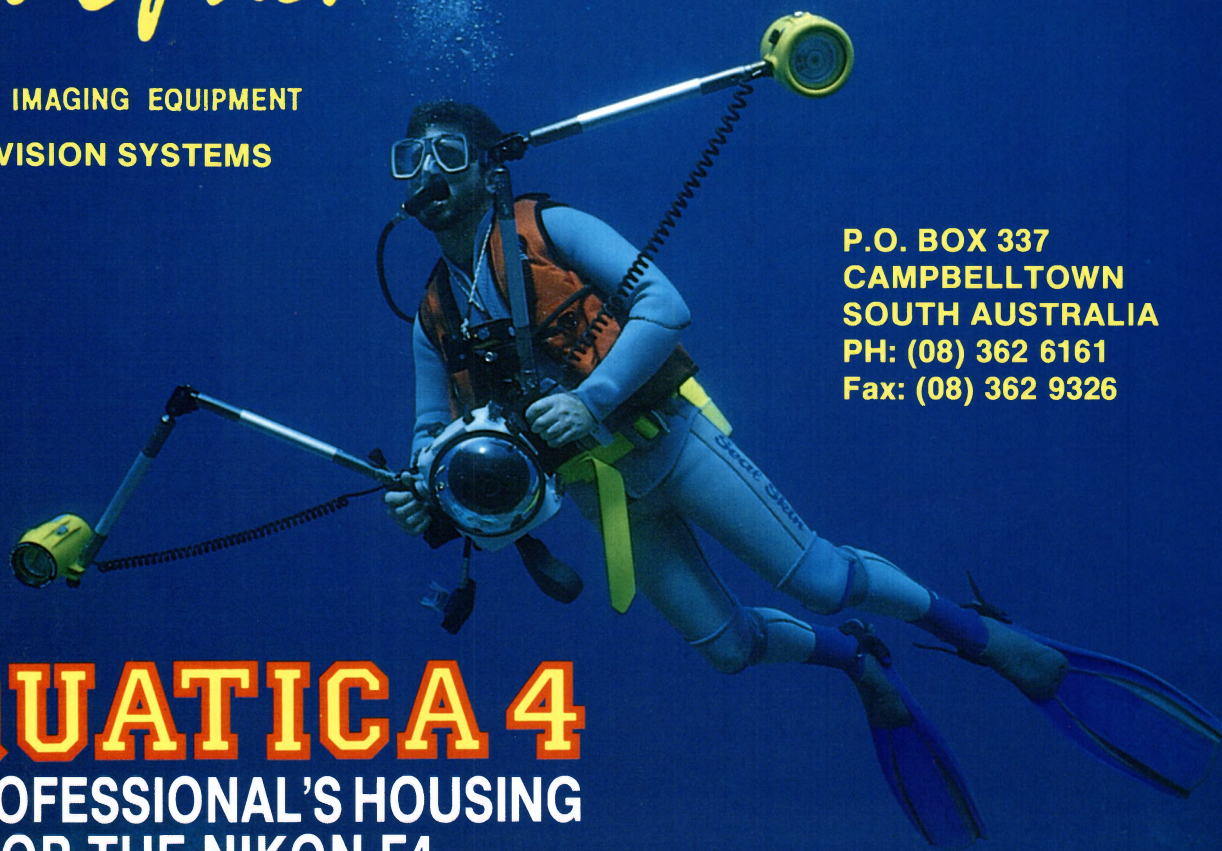
Barbara and Roger don't do a lot of talking during the excursions, but people are always free to ask questions and they certainly have most of the answers. They basically let visitors enjoy what they find and there's plenty of information available at the old church they've renovated as a business centre in the main street of Kaikoura. The approach is low-key and it works. Open a door and let those who have had the privilege to step through, rave.

Despite whaling bans and protests against fishing practices which kill marine mammals by the thousand (the current drift-netting practice is a prime example), slaughter continues. What Barbara and Roger are doing in Kaikoura is sharing an in-balance environment in a non-threatening way. An environment more of us need to strive to appreciate and protect.

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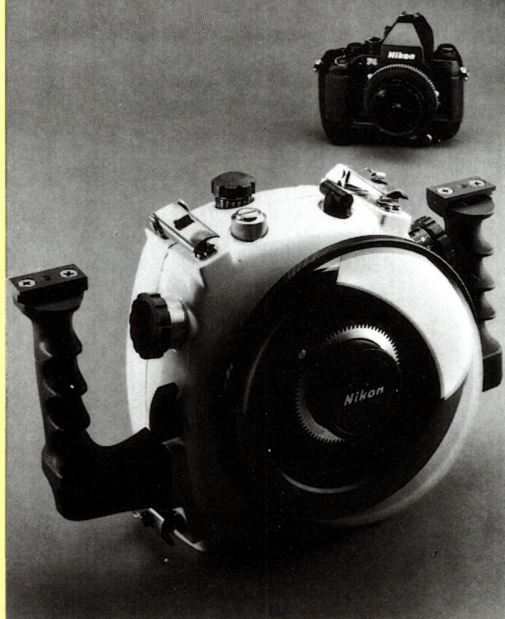
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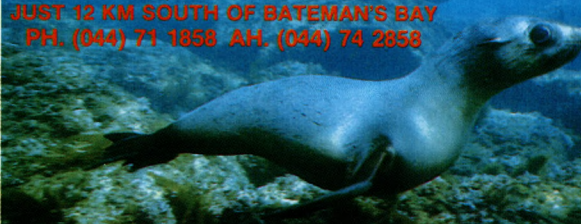
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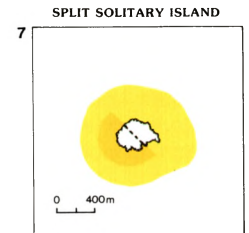
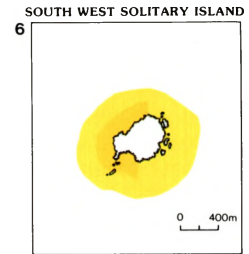
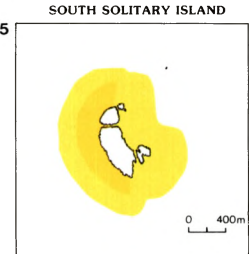
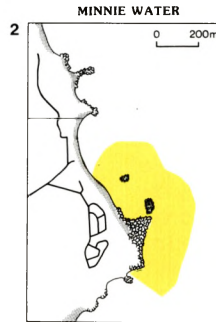
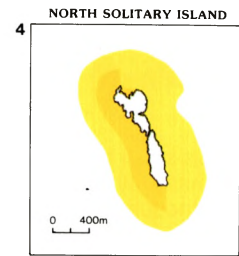
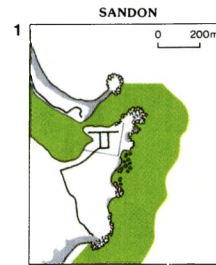
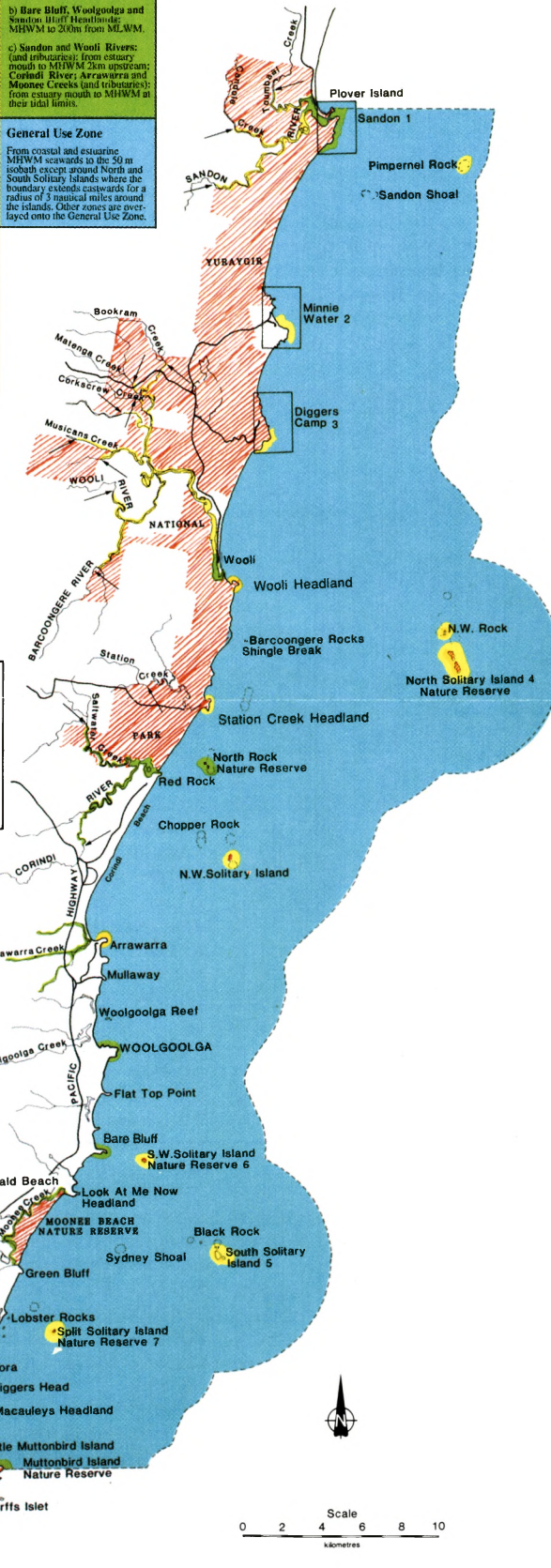
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Proposed Solitary Islands Marine Reserve

Solitary Islands Marine Reserve Proposed Zoning Description	
Sanctuary Zone	Recreation Zone
a) North Solitary (including Anemone Bay & South Solitary and South West Solitary (including "Southern Gutters") Islands: MHW to 200m from MLWM on western side; North West Rock: MHW to 100m from MLWM; Split Solitary Island: MHW to 200m from MLWM on south-western side of split.	a) Plover and Muttonbird Islands (to easternmost point), North Rock: MHW to 200m from MLWM.
b) Woolli and Arrawarra Headlands: MHW to 200m from MLWM.	b) Bare Bluff, Woolgoolga and Sandon Bluff Headlands: MHW to 200m from MLWM.
	c) Sandon and Woolli Rivers (and tributaries): from estuary mouth to MHW 2km upstream; Corindi River; Arrawarra and Moonee Creeks (and tributaries): from estuary mouth to MHW at their tidal limits.
Refuge Zone	General Use Zone
a) (Buffer Zone) North, South, South West and Split Solitary Islands: between 20m and 40m from MLWM on western side (south-eastern side for Split Solitary); 40m seawards from MLWM on eastern side (northeastern side for Split Solitary); North West Rock: between 100m and 300m from MLWM.	From coastal and estuarine MHW seawards to the 50 m isobath except around North and South Solitary Islands where the boundary extends eastwards for a radius of 3 nautical miles around the islands. Other zones are overlaid onto the General Use Zone.
b) North West Solitary Island: MHW to 200m from MLWM; Pimpernel Rock: 200m from centre point of rock.	
c) Minnie Waters, Diggers Camp and Station Creek Headlands: MHW to 200m from MLWM.	
d) Sandon and Woolli Rivers (and tributaries): upstream from a point 2km above the estuary mouth to the MHW at their tidal limits.	



- LEGEND**
- Road
 - Residential areas
 - National Park/Nature Reserve
 - Proposed Marine Reserve boundary
 - Tidal limits

Proposed Recreational and Commercial Activities in Different Zones of the Solitary Islands Marine Reserve				
Activity	General Use Zone	Recreation Zone	Refuge Zone	Sanctuary Zone
Recreational - Line Fishing	Yes	Yes	Yes	No
- Netting	Yes	Yes	No	No
- Trapping	Yes	Yes	No	No
- Spearfishing	Yes	Yes	No	No
- Collecting	Limited(1)	Limited(1)	No	No
- Diving	Yes	Yes	Yes	Yes
- Boating	Yes	8 knots max*	8 knots max*	4 knots max*
Commercial - Line Fishing	Yes	Yes	Yes	No
- Trawling	Yes	No	No	No
- Trapping	Yes	Limited(2)	No	No
- Netting	Yes	Permit	No	No
- Collecting	Permit	Permit	No	No
- Mining	No	No	No	No
Competitions - Line Fishing	Yes	Yes	No	No
- Spear fishing	Yes	Yes	No	No
Collecting for:				
Group Educational Excursions	Yes	Permit	No	No
Scientific Research	Permit	Permit	Permit	Permit

- (1) For bait organisms such as pippeys, beach worms, red rock crabs, conjevoil and green sea lettuce only.
- (2) Rock lobsters and crabs only.
- * Subject to MSB consideration.
- Note - These activities must comply with existing State and Local fisheries regulations e.g. restrictions on collecting and fishing at North Solitary Island; restrictions on trapping at North and South Solitary Islands; restrictions on spearfishing, netting and trapping in estuaries; and the current ban on fishing in Coffs Harbour Creek.

Scale
0 2 4 6 8 10
kilometres

BUBBLE SHELLS

As a small boy I had occasion to visit many eye specialists in Sydney's Macquarie Street. I was fascinated by the highly polished brass plates on the doors of the rooms of most of the medical practitioners I visited. I remember one in particular which had, besides the doctor's name, an ornate raised pattern of swirls, ellipses and spirals.

When the creator put the finishing touches to *Haminoea cymbalum* I'm sure he let himself be guided not only by the evolutionary laws but by the possibility of simply 'outdoing' some future Sydney eye specialist. This exquisite, tiny, lime-green and pastel-orange bubble shell entered my life with dramatic force on a recent visit to Lady Elliot Island. I had gathered my reef walking group around to look at a mature milk-spot cowrie which was carefully guarding her cluster of bright pink eggs, when out of the corner of my eye I spotted cymbalum just 12mms long easing from under a piece of *Caulerpa*.

With great excitement I began to explain how fortunate we were to see such an unusual creature and that this was the first one I had seen in live form.

"This really is a rare find," I said.

"No, it's not," came the voice of a young diver from the outskirts of the group. "I have three more of those over here under this boulder." He surely did . . .

Some hours later, back at the resort, I was able to view one of these tiny creatures under magnification, with the use of a telemicro.

My mind wandered back to a similar incident in Merimbula Lake. Again I had a lake walking party with me. I explained that we had found the beautiful rose petal bubble shell twice in the lake in twenty years of wandering its shallows. Just ten minutes into our walk a bright twelve year old, who had come on the walk unaccompanied because she was the only member of her family interested, said, "Is this the snail you were talking about?"

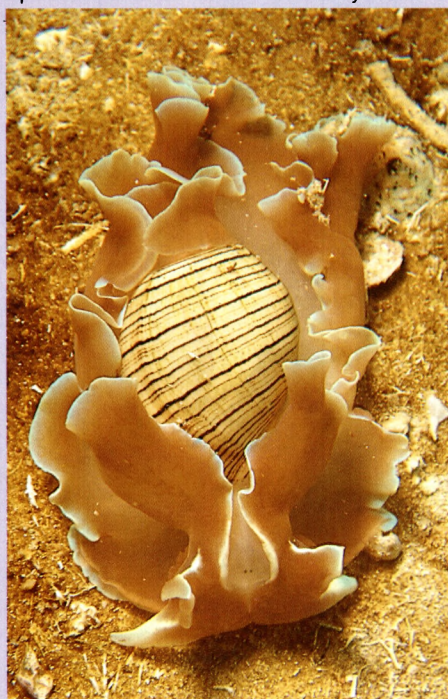
In her hand was the largest and most delicate specimen of *Hydatina physis* I have ever seen. Its shell was over three centimetres in length, chocolate and pink stripes delicately painted by the mantle with perfect artistry. The fragile foot was seven centimetres in length with the softest of pink, tipped with a fine edging of translucent blue/green curving and undulating around the shell. The rose petal bubble shell is a perfect name for this creature.

I have yet another encounter with *Cephalaspidea*, the brassy bubble-shells. Returning from a dive with a photographer friend, I spotted an aggregation of three middle-sized bubble shells on a rock

by Alan Scrymgeour

platform covered with an algal turf as an understorey and a forest of *Ecklonia*. These beautiful shells were in eight feet of water right on the breaking zone for the waves. Not a suitable place for macro photography, but we tried! About a centimetre in length with a pale blue-green foot and a finely striped translucent shell, the shells were the species *Bullina lineata*.

As is my custom, I then began to collect information on this special group of opisthobranchs. After three years of



Rose petal bubble (size 50mm)

collecting and reading, I still know very little about their life cycle, feeding, reproduction and distribution.

Some weeks after finding the rose petal bubble shell in Merimbula Lake I was relating my find to a well known State Fisheries marine biologist. "No . . . No!" he said, "that species is a tropical species. If it was a *Hydatina physis* it must have been very small, just settled out of the plankton."

I gave him its measurements. "That can't be right," he said. We parted agreeing to disagree. I guess I sounded too certain. You see, I had a slide to prove it.

Well, what have I managed to learn on bubble shells?

Bubble shells are mostly carnivorous-eating hydroids, forams, small crustacea and in the case of *H. physis* this animal feeds exclusively on small polychaete worms. One exception to the above state-

ment is *Haminoea cymbalum*. This creature is herbivorous, feeding on algae such as *Caulerpa*, *Chlorodesmis* and *Enteromorpha*.

As regards reproduction, bubble shells are hermaphrodites and are unable to withdraw the penis, often having an open sperm groove to facilitate sperm transport. Bubble shells lay a soft jelly-like egg structure not unlike fine crumpled lace which hatches into planktonic larvae. After approximately two months of floating at the whim of tide, wind and current, the larvae sink to the bottom where they go through a metamorphosis, create a fragile shell and begin to take up life as a true benthic gastropod.

Marine biologists consider some bubble shells to be at a primitive evolutionary stage with a very simple nervous network and also in the process of losing their shells and moving towards another group of opisthobranchs — the true nudibranchs. Another few million years should see the truth of this — or not.

When one looks at the literature on bubble shell distribution on a world scale a confusing picture emerges. The same species can be tropical in some areas and temperate in others. Certainly the most likely bubble shell that Australian divers would see is the botany bubble, a less brassy fellow with a cream to brown mantle and foot and a dark brown and fawn mottled shell up to five centimetres in length. Juveniles usually have four dark brown swirls around the shell but these disappear as the shell matures. Just to add to the confusion, recently the molluscan taxonomists have, in their great wisdom, decided to change the scientific name of the botany bubble shell from *Bullaria botanica* to *Bulla quoyii*. Large specimens of *Bulla quoyii* have been dissected carefully to reveal three small, hard plates. These are known as gizzard plates and are utilized by the animal to aid food crushing and digestion.

It appears that there are five or six superfamilies of bubble shells. They tend to live on soft mud or sand using their sometimes enlarged head-shields to plough along in the soft substrate.

A conservative estimate of bubble shell species is 1500. Much refining of the lower classifications of these gastropods is yet to be done.

A night dive on the sandy bottom of a tidal lake, lagoon or coral reef may introduce the observant diver to at least one specimen of bubble shell, most likely *Hydatina physis*. A glance at this shell's classification reveals the animal's classic pedigree. It is a typical 'brassy' bubble shell.



Adam's bubble (size 30mm)



Guam bubble (size 20mm)



Look-Alike bubble (size 15mm)

Phylum	Mollusca
Class	Gastropoda
Sub-class	Opisthobranchia
Order	Cephalaspidea
Super-Family	Acteonacea
Family	Hydatinidae
Genus	Hydatina
Species	physis

A timely warning here is necessary. If you intend to pick up any bubble shell for photographic or observational purposes, slide your fingers under the creature's foot and you will avoid bruising or tearing the delicate folding body or spectacular head-shield.

After much reading I have reached some hazy conclusions about bubble shells and their life style.

Distribution is based on micro-conditions and food supply rather than temperature. If the micro-conditions are right then the shells can be found.

The Pacific Ocean basin is rich in bubble shells whereas the Atlantic Ocean is almost a desert. Little is known of the other three major oceans of the world.

There seems to be no clearly apparent reason for the showy colours and shapes

of some of the bubble shells. The fragile quality of the shells seems to have no explanation which will satisfy all molluscan biologists.

So, then, creeping around and through the slimy sediments of Australia's shores are some of the most brassy and bold shells of the created order. As divers and ocean observers, we often fail to realize that beauty is most striking when the surrounds are in direct contrast. As you next swim out over that sandy bottom to your favourite reef, remember, don't dismiss what is below you as just 'country to cross'. If you do you will miss the creator's bubbles . . . bold as brass.

REFERENCES

1. Barnes, R.D., *Invertebrate Zoology*, (4th ed.), Holt, Rinehart and Winston, Philadelphia, 1980, pages 334-335.
2. Catala, R., *Offrandes de la Mer*, Tahiti, Les Editions due Pacifique, 1979, page 102, 105.
3. Coleman, N., *Shells alive*, Adelaide, Rigby, 1981, pages 62-64.
4. Coleman, N., *What Shell is That?* (2nd ed.), Landsdowne, 1983, pages 9, 46, 202.
5. Dakin, W.J., *Australian Seashores* (rev. ed.), Angus and Robertson, Sydney, 1980, pages 262-263.
6. Dance, Peter S. (ed.), *The Encyclopedia of Shells*, Blandford, London, 1976, pages 220-221.
7. George, D.J. and Jennifer J. George, *Marine Life: An Illustrated Encyclopedia of Invertebrates in the Sea*, Rigby, Adelaide, 1979, pages 93-94.
8. Grzimek, H.C. (ed.), "Mollusks and Echinoderms", Vol. 3, *Animal Life Encyclopedia*, New York, Van Nostrand, 1984, page 96.
9. MacPherson, J.H. and C.J. Gabriel, *Marine Molluscs of Victoria*, Melbourne University Press, 1962, pages 241-243.
10. Marine Research Group of Victoria, *Coastal Invertebrates of Victoria*, Melbourne, 1984, pages 68-69.
11. Tucker, R.A., and S.P. Dance, *Compendium of Seashells*, New York, Dutton, pages 279-280.
12. Warren, L., "Gastropoda" in *Encyclopedia of Marine Invertebrates*, Jerry G. Walls (ed.), T.F.H., 1982, pages 327-363.
13. Willian, R. and N. Coleman, *Nudibranchs of Australasia*, Australasian Marine Photographic Index, Sydney, 1984, page 4.

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Cymbal bubbles like many other species are gregarious during mating season forming small groups (size 15mm).

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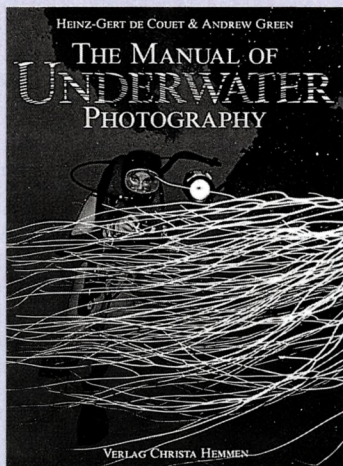
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by Gary Bell

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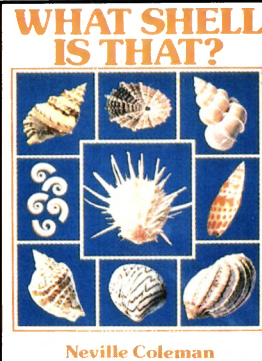
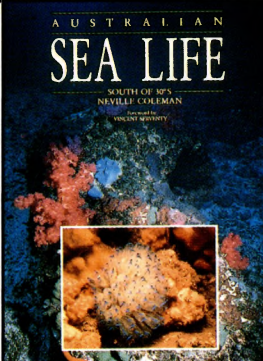
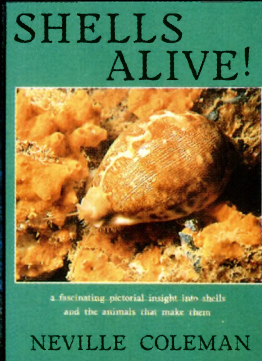
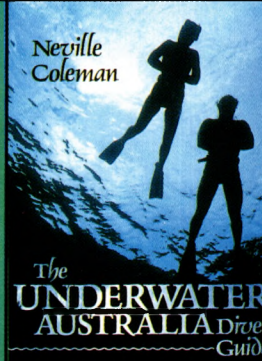
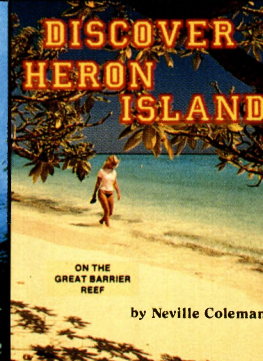
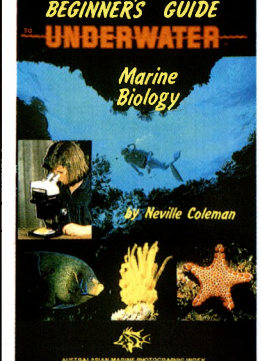
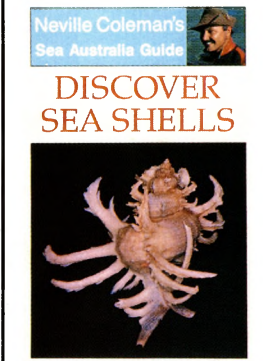
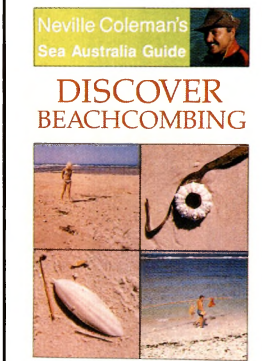
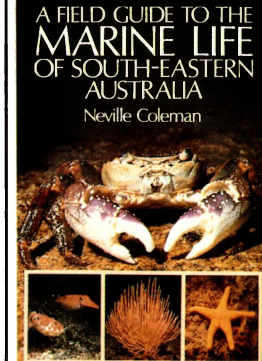
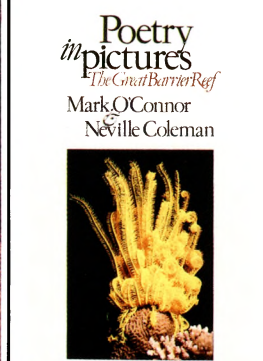
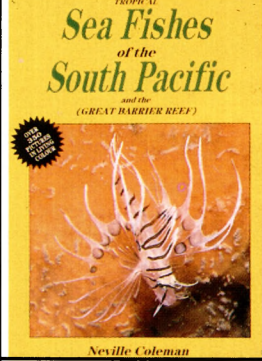
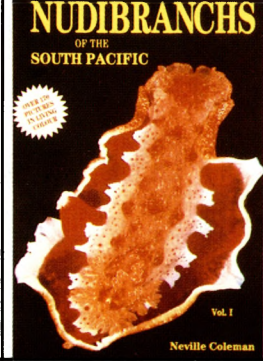
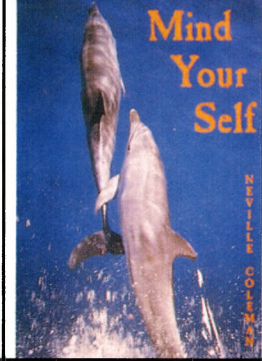
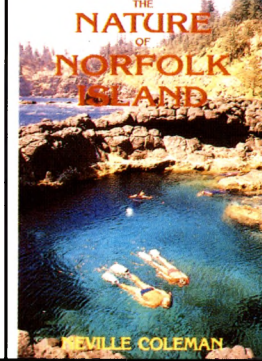


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THE TURTLE WATCHERS

by Sandra Eugarde

Photos by Gary Bell,
Underwater Geographic Magazine.

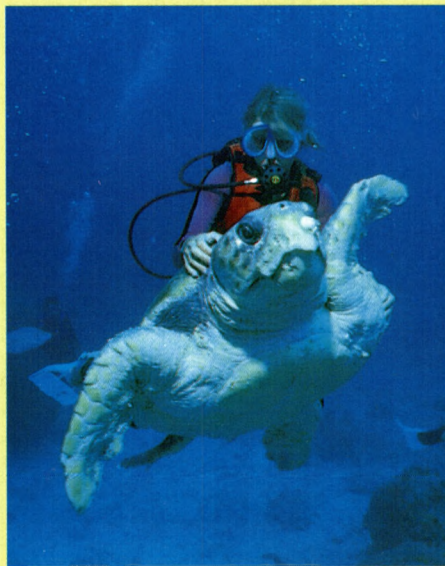


Turtle researchers weighing turtles to try to work out the many still puzzling questions to their life histories.

Ancient reptiles of the deep, sea turtles have long been surrounded by mystery and ignorance. Now as a result of much research by dedicated scientists and conservationists, our knowledge of these puzzling wild creatures is expanding. Experts believe that obtaining a complete picture of a turtle's life cycle may be the key to saving them from extinction.

Green turtles were heavily exploited in the 1920's for turtle soup by canneries on Heron and North-West Islands off central Queensland. Around a thousand nesting female turtles were harvested each year from North-West alone, almost resulting in the total decimation of that island's breeding population. In other parts of the world such as the Cayman Islands, Bermuda and the Dry Tortugas, entire populations have become extinct through commercial exploitation by man.

Of the seven existing species of sea turtle, six are today listed as threatened or



Diver riding a large turtle.

endangered. In 1950, green turtles became protected in Queensland and in 1968 this legislation extended to include all turtle species.

This summer from November through March, the many conservationists and volunteers of the Queensland Sea Turtle Project will make their annual pilgrimage to the rookeries of Mon Repos and the Capricorn-Bunker Islands. Here they will carry out important research into turtle biology, which may bring us closer to understanding their obscure and perplexing life cycle. Every night these beaches will be patrolled by the researchers along with many tourists and interested onlookers who hope to witness the awesome event of a female turtle coming up to nest.

Sea turtles take many years to grow to maturity. It is thought that a female turtle is around fifty years old when she begins to mate and breed. When her first breeding season finally comes around, she drags



embryonic turtles. The nest is in fact a complete micro-environment where factors such as temperature, sand type, moisture and position on the beach will affect the outcome of the eggs. The sex of a turtle is not genetically determined at conception. When the eggs are laid the embryos within are sexless and whether they turn out to be male or female depends entirely on the temperature of the sand around the nest. If the sand is 27 degrees Celsius or cooler there will be more males and if it is over 30 degrees, females will predominate. Thus, some beaches produce greater numbers of one sex than others. Though most of the eggs will develop into healthy baby turtles, some will fall victim to crabs and infestation by fungus.

When the baby turtles hatch they spend a few days in the sand, gradually making their way to the surface and when the time is right (usually at night) they emerge together and make an energetic dash down to the water. It is by some innate sense that these tiny creatures, which look something like wind-up bath toys, know exactly in which direction the sea lies, even when it is obscured by ridges or walls. They instinctively move toward the brightest light source which is normally the light area on the horizon. They can be disorientated by artificial light, however, so every effort is made at rookeries to educate the public about the distraction unnecessary lights may cause. At least 90% of the hatchlings will escape birds and crabs to successfully reach the water, but it is here in the sea that their journey becomes perilous. The helpless little turtles are very easy prey to many reef fish and sharks and most will not make it across the reef flat.

When a newly hatched turtle leaves its natal beach it is unlikely to be seen again until it reaches around 30 cm in length and an estimated age of ten to fifteen years. Where these young turtles spend the early part of their lives is a complete mystery, though it is speculated that they drift with ocean currents for great distances and remain in the open ocean until they reach a certain level of maturity.

Many scientists and volunteers will dedicate many nights this summer to observing sea turtles on Queensland beaches. The work they do is painstaking and often tedious and they must brave all weather conditions. The majority of people working for the Queensland Sea Turtle Project are unpaid volunteers and it is only through the tireless efforts of these people that we hopefully may be able to learn enough about sea turtles to procure a safe future for them.



Female turtle resting after digging her egg pit.



Female turtle laying eggs.

herself up onto the beach, digs first a body pit and then an egg chamber of around 50 cm depth and lays an average of 50 to 130 ping-pong ball sized eggs depending on the species. Over the course of that one season she may repeat the procedure up to eight times, laying a total of 500 to 1000 eggs. Of these maybe one or two will reach adulthood. Her nesting season complete, the female will probably not mate again for another three to six years.

The turtle eggs incubate in the sand for around seven weeks during which time the embryos develop into miniature turtles of 4 to 6 cm in length. Recent studies have uncovered some astonishing facts about



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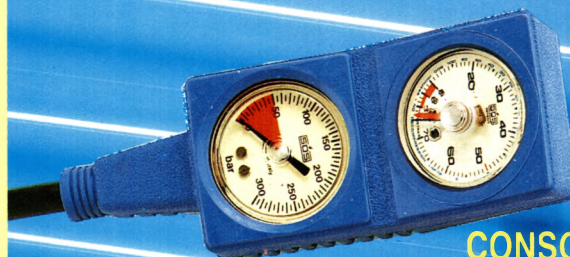
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THE CHANGING FACE OF THE COD HOLE

by Mark Nissen

It is three years past since I first experienced the magic and the beauty of the Cod Hole. Now three years and 450 Cod Hole dives later I am finally prompted to put pen to paper. Unfortunately the impetus for this article is not just to comment on or share photos of the beauty of this dive, but to also draw attention to gradual changes occurring in this community of Potatoe cod, maori wrasse and moray eels.

In the time past, we the crew of Volare have become aware of the many attractions both in and around the Cod Hole. Shark Alley for instance only 100 metres to the west, a landscaped sandy gully home to many a white tipped reef shark. The ledges, 75 metres south, a 30 metre drop off, prolific with schools of trevally, chinamen, and cruising whaler sharks and manta rays. These examples are only two of a many faceted jewel. I have seen hundreds of divers of all ages surface from a Cod Hole dive, their expressions a mixture of both excitement and delight, derived from observing and generally interacting with these friendly curious 100lb potatoe cod.

Epinephelus tukulas charm rubs off on you in a clumsy sort of way. His comical yet curious eyes seem to be asking, "Well, what's happening today then?" Many a heckler rises to say, "they're only around for the food you feed them," but in the past I have had many a dive without a food bucket and been entertained by eight or nine of these gentle giants. I once spent an enchanting hour and a half with my favourite cod, cuddles. Never more than a metre away she delighted in being part of our dive group and posing for the camera, her only demands being a tickle under the chin or a rub on the forehead. Never a more considerate buddy have I met.

Alas, as written earlier, this has now changed. Man's bumbling interference into the environment has once again resulted in not man adapting to the environment, but the environment adapting to man. The balance is upset, and once upset, drastic and sometimes tragic changes occur.

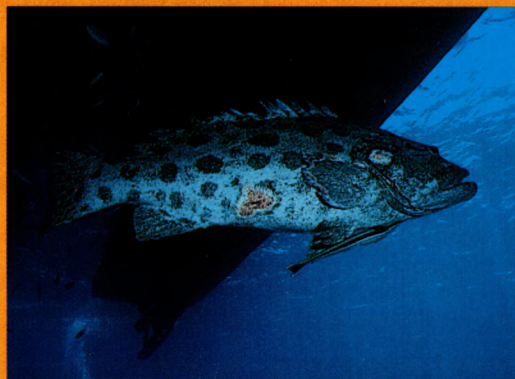
The Cod Hole for a long time has remained unexploited, with its isolation preventing it from becoming a heavy traffic dive area. However this has now ceased to be true. It is now what would be most aptly termed a pressure sensitive area of the Great Barrier Reef. There have always been a small number of charter vessels operating the area, but in one month you would be surprised if you saw a dive charter vessel there more than once a week. Now, it is not unusual to arrive by boat at 10.00 am and find two charter vessels already moored and with divers in



Thousands of divers have enjoyed the cod hole.

the water. We recently pulled up to find two dive vessels carrying approximately thirty divers, and two seaplanes, also carrying divers. What was once the exception is fast becoming the rule. In the October-November marlin season, which is fished mainly around the top of number 10 ribbon reef, it is not uncommon to see four or five boats. Thankfully however not all are diving, but this does not detract from the damage being done.

A favourite diversion for some of the gameboats is to dangle a tailroped thirty pound tuna from the back of the boat. The cod naturally get excited and fight each other trying to claim the prize. The poor winner really loses, as he burns and chafes his mouth on the rope whilst he tries to wrench the carcass from it. These wounds



Only 'people' hurt animals for fun, usually males trying to be men!

then turn into puffy swollen green sores. After two weeks it soon looks like there is a disease in the community. I have seen dive leaders from other dive boats take down tailroped fish, entice a large moray eel to swallow half of it, then proceed to have a tug of war with the eel and try to rip the fish from its grasp. Another favourite is to tie off a large carcass to the reef and arrange their divers back in a group to watch the ensuing frenzy as the cod battle amongst themselves for the prize. Most of the divers are novices or newly certified, and once told on deck that they were lucky enough to have dived one of Australia's greatest dives, think that this behaviour is the norm and feel privileged to have been part of it. Is this the correct example to show to new divers? Are we demonstrating man's ability to be one with the ocean and its inhabitants? Besides the physical scars, cuts and scrapes these and other circus stunts inflict upon the cod and eels, they also prove to excite and further aggravate them, gradually causing a noticeable change in their behavioural patterns. They are becoming increasingly competitive and aggressive.

Previously the cod had a semi established pecking order and would almost literally swim up one at a time to be fed, it is now every man for himself and don't spare the horse power. The minute a diver descends with a food bucket he is mobbed by cod, wrasse and moray eels. Never anywhere else have I seen four large moray eels up to two metres in length free swimming around divers. The eel, being short sighted can, and does make mistakes as to what is and what isn't food, and who can blame the eel. A pair of hands holding onto a food bucket at the Cod Hole is now a brave pair of hands indeed.

Working as a member of the crew of M.V. Volare, Lizard Islands Dive Vessel, I have for the last three years been lucky enough to live only thirteen nautical miles from the Cod Hole. I also consider myself lucky to be part of an experienced and professional crew. Don Wills, the skipper of the 46 foot Volare has also been a PADI instructor for a number of years, and was one of the first instructor/divemasters on Lizard. The divemasters consist of Tony Carroll and myself, both NAUI master instructors and diving every day of the year except Xmas day. Belinda Morris the dive boat hostess is a qualified NAUI skindiver leader and currently upgrading to divemaster. Between the four of us we have fourteen years of experience diving the Cod Hole and have seen these gradual changes occurring. We feel strongly that if something is not done to alleviate this pressure then this wonder of nature will be irreversibly ruined.

For the past ten months we have been assisting the Lizard Island research station's director Dr. Norman Quinn with his studies of the effects of human intervention at the Cod Hole. We have been recording observations such as the number of boats present, the number of divers, the number of divers feeding the cod, the number of cod, wrasse and eels on each dive, any changes in appearance, new scars, cuts, etc., their location, and the general behaviour of all involved.

Dr. Quinn says, "our existing knowledge of fish behaviour does not allow us to predict how increasing human interaction effects individual or groups of fish. However, it is unlikely that frequent artificial feeding and visitation by divers would not be deleterious to existing fish behaviour. Consequently, it is only a matter of time before the usage of the Cod Hole by dive and game fishing boats will ultimately be restricted."

It is common knowledge among boat operators and most divers that the Cormorant Pass section, which incorporates the Cod Hole is a marine park buffer zone, and protection extends in a 500 metre radius. Yet still we see potato cod with fishing line trailing from their mouths, prop cuts, indentations in their heads consistent with being bludgeoned, resident white tip reef sharks with hooks imbedded in their mouths, egg shells, tea spoons, miscellaneous pieces of rubber and the normal junk that seems to be



A marine park should be a monument to human compassion.

dropped over the side of charter vessels. Cleaning up is not a major task, but six months ago it wasn't even necessary. We now have to ask is enough being done to protect this area. Should the area of protection be widened. Should the number of boats be restricted, should feeding be restricted or even stopped. Should there be a Great Barrier Reef Marine Park Authority brochure with a list of do's and don'ts, or should people just start being responsible for their own actions.

If and when I leave Lizard Island I would like to think I could return twenty years from now and find the Cod Hole unchanged, or at the very least still there. Unfortunately unless some form of regulation is implemented soon or even more miraculously people start becoming aware of, and even responsible for their own actions, then I sincerely feel that this inspiring and beautiful dive will be just a memory.

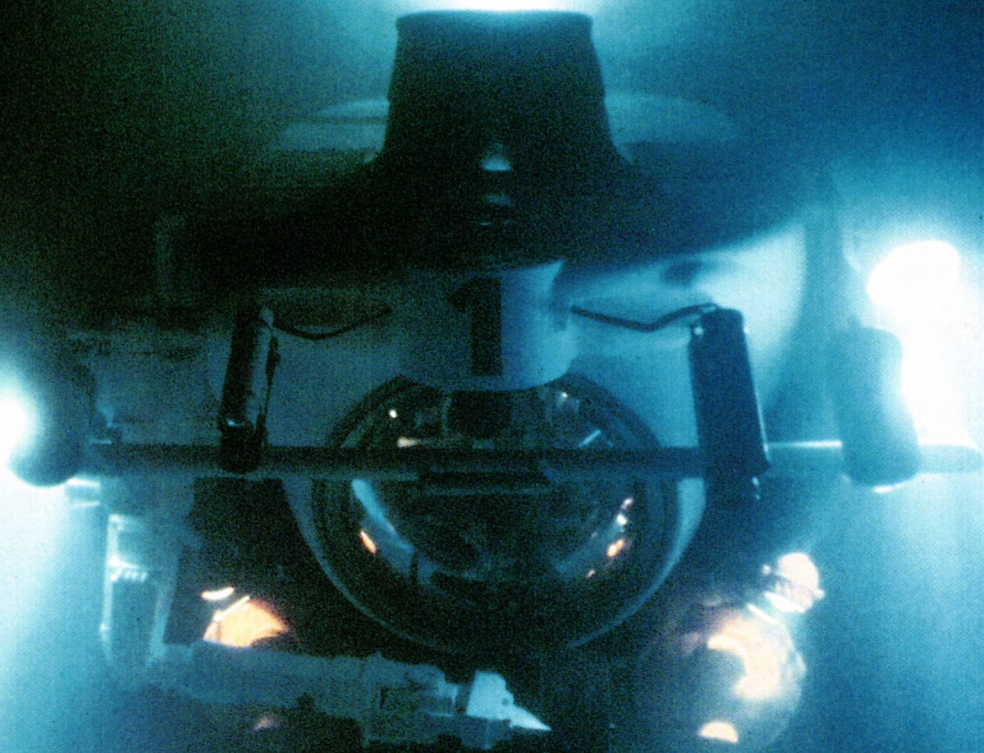
It's a pity that scenes like this are turned into frenzied fantasy by film making freaks who prey on the nature of competition



THE DEEPEST FRONTIER: JAMES CAMERON'S "THE ABYSS"

by
Mike Adamson

What is it that man reaches for but can never touch? What was it that first drew man to penetrate the alien world of earth? The fascination that the unknown holds for man has lead us to where we are now, adept travellers of the surface waters, confident and knowledgeable of the thousands of lifeforms that inhabit the thin Euphotic Zone. But what about deeper? Really deep? It was once said that there are more footprints on the moon than in the deep sea.



This is the great journey, the probing question, of director James Cameron's film The Abyss. Released in 1989, it has gained critical acclaim worldwide and proved itself a box office winner, very much in the footsteps of Cameron's previous epics, The Terminator and Academy Award winner Aliens.

The film deals with the unknown and the ways in which different people respond to it. A ballistic missile submarine, USS Montana, cruising at 1450 feet over the Cayman Trough, encounters a "bogie," or unidentified contact, travelling at incomprehensible speeds. The craft loses power and collides with the wall of the trench, going down hard with the loss of all hands and coming to rest on the lip of the trench proper at 2000 feet.

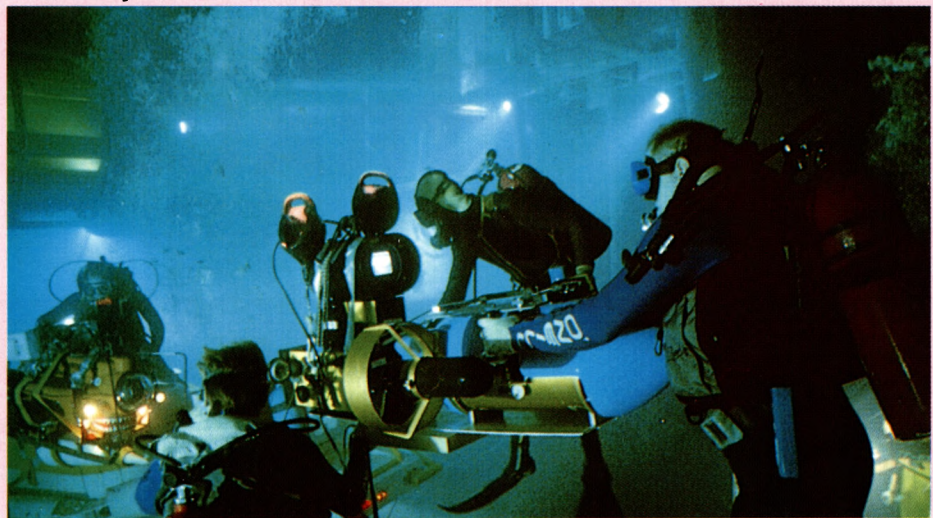
The U.S. Navy seconds the experimental oil exploration rig "Deepcore," a saturation habitat, to act as base of operation for an expedition to enter the Montana and search for both survivors and the cause of the disaster.

The rig is commanded by Virgil "Bud" Brigman, and he is distressed to find that he is not only to play host to four Navy Seal commandos, but that his estranged wife Lindsay - the engineer who designed Deepcore - is coming down with them.

An expedition crosses from the relocated habitat to the Montana, the large work sub One-Niner "Flatbed" carrying teams of divers, and deep inside the doomed craft one of the rig divers encounters something very strange. With panic, his breathing mix becomes deregulated and he is unable to tell them what he saw, being returned to Deepcore unconscious. At this time a hurricane is rising over the Caribbean and the Flatbed, needed to disengage the umbilicus from the support ship Benthic Explorer is commandeered by the Seals to covertly remove a warhead from the Montana. Before it can be returned to proper use the storm has taken hold and they are no longer able to cast off the umbilicus. Benthic Explorer loses a station-keeping thruster and starts to drag the rig - toward the edge of the trench, where she jams, before the crane carrying the umbilicus shatters and sinks, directly toward the rig. .

Surviving the impact, the rig is in desperate trouble and the adventure has only just begun. From that point on Cameron heaps upon the viewer incident upon incident, bringing his characters face to face with things they cannot comprehend. The Seals react to them as enemies, but one is presented with phenomena that one cannot deem hostile.

The Abyss is a long picture, about 135 minutes, but very compact. Take your eyes from the screen for a moment and you will miss something vital. It is in all senses a dynamic picture that does not flag from the first frame to the last.



The original intention had been to film in open water in the Caribbean but this was technically prohibitive and the largest freshwater heated pools in the world were constructed inside an unfinished nuclear power station outside Gaffney, South Carolina. The reactor containment building was flooded with 7.5 million gallons, and the pit that would have housed the turbines with a further 2.6 million. With a mean depth of 55 feet and a width of 209 feet, the big pool housed a portion of the Deepcore rig, pressurised and ballasted with 90 tons of concrete, plus fully operable submersibles built by Donald Pennington and Can-Dive Services Ltd, and ten special sets of diving gear built by Western Space Marine. Forty per cent of all principal live action was filmed underwater, the first time so great a proportion has been done.

Underwater photography was staged by veteran film-maker Al Giddings, and Cameron directed from the bottom of the pool. He spent up to six hours per day underwater and a special communications system was developed to enable him to talk to actors and technicians simultaneously, above or below the surface. Also developed was an air filling station, eliminating the need to surface to charge tanks. The gear designed by veteran concept artist Ron Cobb (also of Aliens, the original Alien and many others) follows the principles of commercial oil diving, being full saturation "rat-hat" suits, weighted to negative buoyancy. The helmet he designed was so strong and so good that Western Space Marine offered to buy the film units as prototypes of a commercial version.

I have refrained from telling the whole story so as to preserve a sense of mystery for anyone who may not have seen it yet. It is a magical sense, it has a conclusion that puts a firm fullstop to the past and starts a clean sheet for the future of mankind. It is also a story of love, loyalty and sacrifice, and recognises, debates, the tenacious human drive to cling to life in the face of terrible odds. The film is intensely moving at times, always brilliantly and convincingly acted, and the feeling of reality is quite overwhelming.

Behind the scenes, revolutionary camera units, in an enormous main tank.

The Abyss stars Ed Harris (formerly astronaut John Glenn in The Right Stuff) as Bud Brigman, Mary Elizabeth Mastrantonio (who starred with Al Pacino in Scarface) as Lindsay Brigman, and Michael Biehn (of both The Terminator and Aliens as Lt. Coffey, leader of the Seals. The budget lies between 35 and 45 million and one can certainly see where it went. It was universally rated the hardest film any had ever tackled, at all levels. It took no less than nine special effects companies, including George Lucas' Industrial Light and Magic, to generate the miniature, process, matte, rotoscopic, radio-control and pyrotechnic work, and amazing new work with computer imaging. Reading down the credits one sees names such as Les Dille, who engineered the sets for Star Wars, and Joe Viskosil who handled pyrotechnics for same. Then there is stop-motion ace Gene Warren and others. The film was produced by the very competent Gale Anne Hurd, who also worked with Cameron to produce Aliens.

It is interesting to note that The Abyss is set only a few years from now and that everything one sees was built either for real or according to fully-understood principles. At 1700 to 2000 feet the diving is very deep and uses the new oxygen-neon "neox" mix, and for extra-deep work the film shows the amazing liquid respiration system that has been in experimental development for over 20 years. Human liquid-breathing was achieved for the first time about 1988 and it is naturally a sensitive area due to its inevitable military applications.

Beyond all of this there is the unknown itself to alone stand as a projection of fiction and the viewer gives himself willingly, body and soul, to the adventure. Do yourself the biggest favour you ever have: see it! All advertising materials are played very close to the chest, for perfect reasons, and I am not about to break the spell. As the poster slogan says: When you get there, you will understand.

SWIM BLADDER TRAUMA

by Ric Fallu



“Your fish spat at me!”
“What?”

The blue devil; it came out of its cave, swam to the glass in the aquarium and spat gravel at me.”

“He’s just doing some house cleaning,” said Frank. “The main reason I collect fish for the aquarium is to learn things you don’t observe in the sea. If I hadn’t had this one in the fish tank, I never would have realised that they excavate their caves.”

I looked at the dazzling blue fish. It turned side on and I could see its electric blue spots and the lines on the margins of its fins. I thought about what Frank said

about aquariums helping you to understand fish and my mind went back to the day Frank and I collected this one . . .

I got into the boat, pulled off my mask and regulator and turned to Frank. “Where’s the fish?” I asked.

“In the bucket, hanging on the end of the rope.”

I looked over the side and saw a bucket hanging in the water about eight metres below.

“Why not haul it straight in?”

“Decompression. Fish need to be decompressed to avoid air bladder trauma. Most kinds need longer than humans to adapt to a decrease in pressure.”

The fish had been collected from a ledge in about fifteen metres of water and Frank had judged that it should be left to decompress for about an hour.

We had been diving at the Rip Drop-off at the southern end of Victoria’s Port Phillip and had timed our dive to be during slack water. We had got out before the current resumed.

As I took my first sip of tomato soup (Victorian divers are well prepared) the boat swung around on the anchor. I looked over the side. “Tide is starting to run,” I commented.

The current that runs through the Rip has to be seen to be believed. A lot of water has to get through the narrow entrance to

the bay and, as well as this, the sea floor rises up from over sixty metres to about twelve and this causes tremendous turbulence.

As I watched, the bucket shifted from directly below the boat and swung down-current. As the water speed increased, it shifted more.

"Looks like the fish won't finish its deco," I said to Frank. "In a minute or two, the current will lift the bucket to the surface."

"Damn!" said Frank, and he hauled the bucket in. Once it was in the boat, he pulled off the lid. Despite its attempts to swim downward, the fish was floating on the surface and its belly was distended.

"What's wrong?" I asked.

"Air bladder trauma," replied Frank. "Fish have an air bladder that helps them float."

"Like a natural, internal buoyancy compensator?"

"Right. The trouble is, most species don't have a dump valve. If they want to go to shallower water, they have to absorb air via their blood and that takes time. That's why I wanted to decompress this one slowly."

A lot of fishermen know about air bladder trauma and use it to help them land their catch. If you can haul the fish up ten metres or so, its air bladder will expand and become positively buoyant. Not only will the fish have to fight the fisherman, but it will have to fight buoyancy. This technique was used a lot by spearfishermen when they still speared the giant black cod and is still used by anglers after blue groper.



I said, "When I've been line fishing, I've pulled up snapper from the depths. Some of their guts were sticking out their anus. I suppose their bladders had blown and pushed on their intestines."

Frank went on "Not all fish have the problem. Some species have a pipe that allows excess gas to escape out of the gullet. I've seen nannygai in an aquarium. They were caught in trawl nets on the continental slope, God knows how many hundreds of metres deep, yet they survived an unceremonious haul to the surface with no problems."

"What about sweep?" I asked. "You can be on the surface in fifteen metres of water and they will swim up off the bottom to look at you. I've never seen bubbles coming out of their mouths, or any other orifice if it comes to that."

"I've thought about that," said Frank. "On a couple of occasions, I've put a spear through a sweep and later gutted them, prior to eating. When you look at their

swim bladder, the walls are very thick and tough enough to resist pressure. Also, they have a lot of fat in their guts. I reckon they use the fat for buoyancy and have reduced swim bladders."

"Anyway," said Frank, "None of this helps our mate in the bucket." Frank looked at the distressed fish. "There is something I can do." He produced a wicked looking needle.

"He's going to put it out of its misery," I thought.

I was wrong. Frank held the fish under the water and pushed the needle into its bloated belly. Bubbles came out and the swelling went down. The fish swam to the bucket's bottom and hovered in a normal position. It looked a little shocked and its vivid colours had faded a little.

My mind came back to the present and the fish now securely established in an aquarium. "Did the needle treatment hurt the fish?" I asked Frank.

"Having a big spike in your belly can't be too pleasant, whatever way you look at it," said Frank, "but once its air bladder was reduced to size, it came good in a day or so. It lost a couple of scales but they grew back in a week. It's king of the aquarium now and manages to teach me something new every day."

I looked at the magnificent blue devil finishing his spring cleaning and had to agree.

You did it for the whales

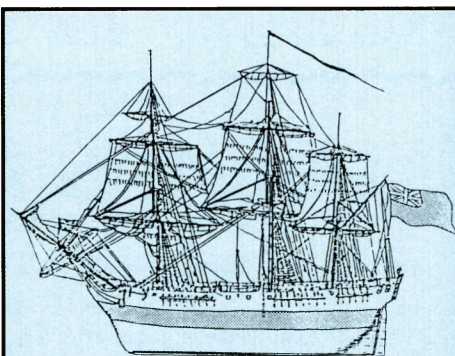
FIFTH EXPEDITION TO THE WRECK SITE OF HMS "SIRIUS", NORFOLK ISLAND, MARCH 1990

The Minister for the Arts, Tourism and Territories, the Hon. Clyde Holding MP, announced that the fifth expedition to the wreck of the HMS "Sirius" on Norfolk Island will take place between 14th and 25th March 1990. This will coincide with the 200th Anniversary of the loss of the "Sirius."

Mr. Holding said that the Commonwealth Government has made a special "one-off" grant of \$3000 to the Norfolk Island Government to assist with defraying the cost of mounting the expedition.

The purpose of this expedition will be to monitor the condition of both the wreck site and those relics which have been preserved to date. Previous expeditions have been concerned primarily with documenting and excavating the wreck and associated artefacts. The last expedition took place in 1988.

"The wreck of the HMS 'Sirius' is of national significance in establishing permanent European settlement in Australia," Mr. Holding said. "The Commonwealth Government is pleased to provide funds in order to ensure the success of the expedition which will be undertaken by professional maritime archaeologists." The expedition will be led by Mr. Graeme Henderson of the Western Australian Maritime Museum. Mr. Henderson has led all previous expeditions.



The Sirius, redrawn from original — courtesy Mitchell Library and Marine Studies, Vol. 4 # 20, Nov. '88.

Mr. Holding also announced that the Commonwealth Government would provide a further grant of \$3000 to the Norfolk Island Government as part of the 1989/90 Historic Shipwrecks Programme for the task of managing the "Sirius" wreck site and preserving the "Sirius" collection of relics.

Mr. Holding said that Commonwealth financial support during 1989/90 will assist with the long term preservation and protection of this important wreck site and enhance the nation's maritime heritage.

HMS "Sirius" was originally built as a collier of some 500 tons. Burnt to the waterline the hulk was purchased by the British Government

and rebuilt as the "Berwick" for use as a naval shoreship of 520 tons.

Laid up after a run to the American colonies the "Berwick" was refitted and renamed HMS "Sirius" for service as the flagship of the First Fleet under the command of Captain Arthur Phillip.

HMS "Sirius" was totally wrecked at Norfolk Island on 19th March 1790.

HMS "Sirius" and her tender "Supply" sailed from Port Jackson with 275 convicts and marines with food supplied on 6th March and arrived at Norfolk Island on the 13th. Strong gales were blowing and for several days the "Sirius" was unable to stand inshore to disembark passengers or stores.

On the 19th with the wind from the east-south-east, the "Sirius" has commenced to land stores by lighter. A wind change to the south east left the "Sirius" embayed. Despite the efforts of Captain Hunter to save the situation strengthening wind and worsening seas pushed the "Sirius" onto reefs in Sydney Bay. All passengers and crew were put safely ashore and over the following weeks a great part of the stores were salvaged. The "Sirius" finally broke up in a storm two years later.

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Underwater Education

PRO-DIVE BRISBANE

P.A.D.I. UNDERWATER PHOTOGRAPHY
CERTIFICATE COURSE (QLD)

(Weekend Workshop)

Participants attended theory audio-visuals at Sea Australia Resource Centre facility in Brisbane. Results and certificates were screened and awarded during "Sex in the Sea", "Education through Entertainment" evening at Pro-Dive, Milton with Steve and Dorothy Hills.

Practical dives were organised through Pro-Dive Tweed Heads. Their new "Cougar Cat" has all the latest equipment and was expertly skippered by Scott. Even in a somewhat choppy sea, the boat handled beautifully.

Due to a cyclone out at sea, course participants chose close-up photography for their practical and turned in some excellent results, the like of which will be published next issue.



*Striated hermits
live at
Cook Island.*



Pro-Dive Brisbane photography group pictured on board Pro-Dive Tweed Heads NSW dive boat, with Scott Rawling's mascot, Sea Dog.

Congratulations: Vicki Oakhill, Loietitia Long, Bob Spence, Wayne Langley, Lee E. Seary, Martin Wright and Hugh Savage - the average practical and theory assessments were 83%.

Underwater Education



Some of the Dolphin Dive Club group at the Car Bodies.

DOLPHIN DIVE CENTRE

P.A.D.I. RESEARCH DIVER
CERTIFICATE COURSE (QLD)

(Weekend Workshop)

A very enthusiastic group of divers attended the first Dolphin Dive Centre P.A.D.I. research course and this air of learning continued throughout the course, rain, rain, rain and 20 beautiful metre visibility.

With lots of thought provoking comment, practical observation dives were held at artificial reefs on Moreton Island where there were heaps of all kinds of "stuff" (which after 8 hours audio-visuals the day before), miraculously turned out to be sponges, cinidarians, worms, bryozoans, molluscs, echinoderms, ascidians and fish. The Car Body reef is in an excellent situation and can be dived in almost any conditions. I was impressed with the site, as were three of our group who stayed in too long looking at 'stuff', and nearly missed the ferry.

Congratulations to: Tommy Wong, Guy Green, Stephen Payne, MaryLynne Heiser, Christine Heiser, Chris Fielder, Sam Fielder, David Robinson, Rana Jewell and Gary Carroll.



There appear to be very few stonefish out in the open at this locality, unlike other dive sites in Moreton Bay.

Underwater Education

FROG DIVE CENTRES (New South Wales)

**N.A.U.I. Underwater Environment Certificate Course.
N.A.U.I. Advanced Underwater Environment Course
Weekend Workshops**

Consecutive Weekend Workshops held at Frog Dive Centres, Bass Point Dive Lodge saw the most rain ever for February, and huge seas. Even the tidepools were too rough for safe entry. Extra theory/practical audio-visuals filled in the rain-soaked days and all participants benefitted from the additional encouragement. Assignments were set for practicals. The gutter at Bass Point generally has an excellent entry and safe exits during normal sea conditions. Pictures shown on this page were taken during previous courses.

Congratulations to: Craig Foster, Bengt Norrman, J.A. Norrman, Malcolm Ford, Steve Owen, Leigh Owen, James Pruss, John Rogojkin, Lynette Clark.

A NIGHT WITH NEVILLE AT BALMAIN LEAGUES CLUB
"EDUCATION THROUGH ENTERTAINMENT" AUDIO-VISUAL
"EAT OR BE EATEN" - 7.30pm WED. 1st AUGUST.



**Beautifully camouflaged Red
Cardinal Scorpionfish *Scor-
paena cardinalis* at Bass Pt, NSW
(size 220mm).**

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FOR BOOKINGS**

Underwater Education

**Neville Coleman Education Courses, Seminars
Workshops, Photographic Exhibitions, Promo-
tional Dive Festivals and Teach Tours are held
Australia wide/the World around.**



**A mating pair of orange-spotted *Chromodoris* *Chromodoris* sp.
photographed at the gutter Bass Pt, N.S.W. (Size 30mm).**

**CHECK DETAILS
FOR ONE
NEAR YOU!
NEXT - See page 60**

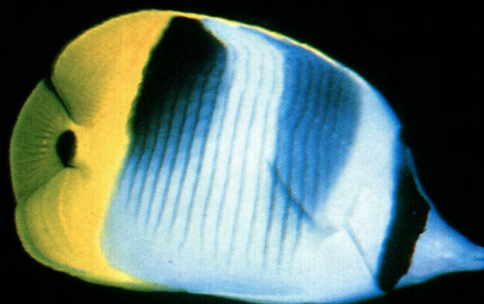
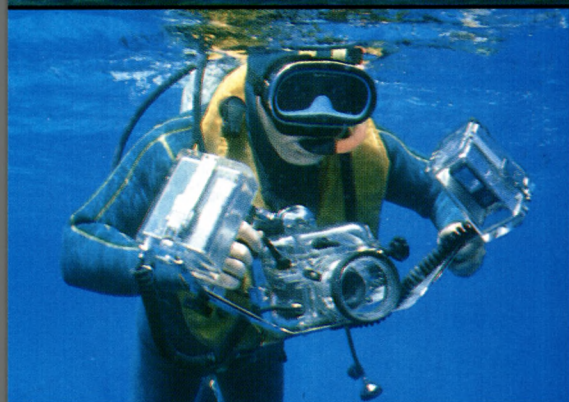
Neville Coleman's School
of Photography Underwater
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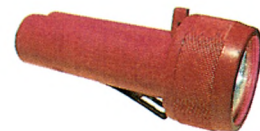


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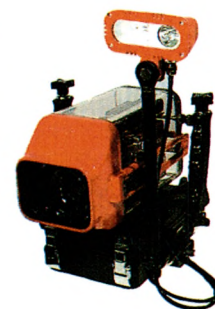
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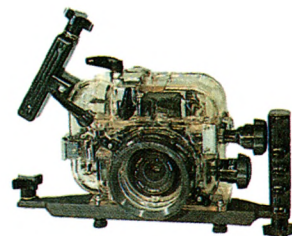
**NIKONOS PACKAGES
AND ACCESSORIES**



**LIGHTS ALL
SIZES & COLOURS**



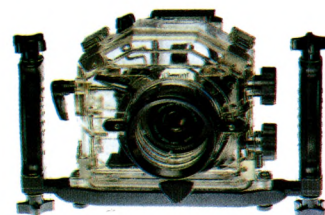
**VIDEO CASES, LIGHTS
AND ACCESSORIES**



**SINGLE LENS REFLEX
CASES & ACCESSORIES**



**SUBSTROBES, MOUNTING
ARMS & ACCESSORIES**



**SINGLE LENS REFLEX
MOTOR DRIVE CASES**

UNDERWATER GEOGRAPHIC

PLAIN AUSTRALIAN

PRODUCT REPORT

with Gary Bell



IKELITE SUBSTROBE MS and MV

My first introduction to Ikelite's Mini Substrobe was on Grand Cayman Island B.W.I. where I was on assignment with David Doubilet. We were about to enter the water at "Valley Of The Rays", when our guide, Jay Ireland, reached into the wheel-house of our boat and pulled out his Aquatica underwater camera housing with two Mini Substrobes attached. They were the MS series, one was used as a main strobe, the other as a slave and were mounted either side of the housing. Jay was set up for macro and general fish photography making it a very versatile unit.

After seeing his excellent results one evening during a slide show, I was very impressed and decided to have a closer look at these strobes. Fortunately, when I was back in Australia and on Heron Island, I had the chance to try out both the Substrobe MS and the Substrobe MV for myself.

Apart from a couple of features, the MS and the MV are identical. The only difference between them is the MS has slave mode capability with a built in sensor directly above the flash tube reflector, whereas the MV has TTL mode. Although the Substrobes are ideally suited for all types of close-up and general fish photography, they are capable of much more. The flash angle of coverage is 65 degrees, which covers the 28mm lens. This allows for medium wide angle photography.

The Substrobes are remarkably small in size, measuring 81mm x 92mm x 116mm and weigh a mere 412 grams (without batteries and sync cord). No doubt, this will prove invaluable for the travelling underwater photographer. They are powered by 4 AA size batteries. When rechargeable Ni Cards are used, the recycle time between flashes is a fast 3 seconds.

The underwater guide number for 100 ISO film is 24. At a subject distance of 1 metre, the correct aperture is F8. At 0.3 metre, F22.

Four detachable sync cords are available with the following male connectors. IKELITE - NIKONOS III, IV, V - NELSON - EO. For the avid TTL photographer with dual MV strobes in mind, Ikelite also have available a compatible sync cord for both the Nikonos V and Ikelite camera housing.

When using the MS as a slave strobe, simply screw the waterproof cap (included with strobe) into the flash sync cord socket and you have a cordless slave unit. This enables you to place the strobe in any position and be more creative with your lighting. If the MS is used as a slave strobe in conjunction with the MV, the MV should be switched to manual mode. TTL mode does not compensate for second separate light source.

I tested the Substrobe MS and MV on Heron Reef with my Nikonos V set up for macro and general photography. Both strobes performed exceptionally well during each dive. The flash output was consistent and the recycle time fast. When there are no second chances, this is priceless.

The substrobes have been carefully designed and definitely meet all the requirements of amateur and professional underwater photographers. Couple either the MS or MV any with one of Ikelite's Combination arm/trays and you have an excellent camera rig, ready for anything.

WARNING:

DO NOT use TTL Sync Cords with non-TTL Substrobes. You will damage the camera's circuitry. Use TTL Sync Cords ONLY with TTL Substrobes.



Libby Grant with a Nikonos IV and Ikelite substrobe set up for fish photography.

SPECIFICATIONS

SUBSTROBE MS and MV

Power output 33 Watt/seconds
Guide number (ISO 100) 92 Surface; 24 Underwater
Power modes Full only
Power source 4 AA alkaline cells or rechargeable Ni-Cads
Number of flashes . . . 250 alkalines; 180 Ikelite Ni-Cads; 150 Ni-Cads

Exposure modes:

MS . . . Manual and Slave (Auto with £4054 Flash Monitor)
Recycle time 5 Sec alkalines; 3 Sec Ni-Cads
Ready light Orange (non blinking)
Flash tube Straight
Colour temperature 5700° K
Flash tube reflector Rectangular
Angle of coverage 65° (covers 28mm lens)
Focusing light None
Sync cord Detachable (coil design)
Sync cord types 1. Ikelite; 2. Nikonos III, IV, V; 3. Nelson; 4. EO

Depth rating 91 metres
Dimensions 81mm x 92mm x 116mm
Weight 412 grams (air) (approx) 57 grams positive U/W
Flash arms available Several systems
PRICE: Substrobe S package - MS \$289.00
Nikonos 3, 4, 5 - MV \$387.00

Size	Excellent
Construction	Excellent
Power output	Excellent
Flash angle of coverage	Excellent
Colour temperature	Excellent
Slave mode function (MS)	Excellent
Slave sensor (MS)	Excellent
TTL mode function (MV)	Excellent
Recycle time	Excellent
Flash ready light	Excellent
Focusing light	Not provided
Mode switch	Excellent
Battery compartment	Excellent
Battery door	Excellent
O-Ring seal	Excellent
Sync Cord	Excellent
Sync Cord connector	Excellent
Bulkhead Connector	Excellent
Operational functions	Excellent
Reliability	Excellent
Strobe mount	Good
Depth range	Excellent
Value for money	Excellent
Instruction manual	Excellent
Flash arms available	Excellent
Product recommendation	Excellent
Excellent Good Fair Not provided	

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"Charter Boat Diving in Brisbane"

Some Words of Concern from a Disenchanted Diver."

by David N. Buchanan

Photos by Neville Coleman,
Underwater Geographic

As a keen, enthusiastic diver of many years I share my UNDERWATER experiences with all people who show the slightest degree of interest.

One day while I was seated in a coffee bar I noticed a diver's watch on the wrist of a fellow sitting opposite me. "Are you a diver?" I enquired without embarrassment or hesitation. Accompanied with a smile came the answer, "Yes, I am". Great, I thought, someone who understands my love of the world below.

My new found friend's name was Joh Bjelkie-Diver. A man in his mid thirties, married with three children, house on mortgage and still paying off the two year old family sedan. Joh had been diving regularly for five years. He was a public servant, didn't earn a big salary and scraped pennies together for his dive gear and boat trips.

We spoke for a long time and after we parted I thought a lot about our discussion. I hope you do likewise after you've finished reading what was shared. To capture the flow of our encounter I've presented Joh's comments in verbatim style, so as not to colour his words with my own interpretations.

DNB - Do you enjoy loving and diving in Brisbane?

Joh - Definitely. Brisbane has the benefits of big city living while also possessing some of the newest and best dive spots in Australia.

What else could I ask for? I enjoy around-the-year diving in clear, warm waters, whales that grace our

doorstep, numerous wrecks to explore, a multitude of top dive locations and a myriad of fish life, both tropical and sub-tropical. Why would I want to live anywhere else?

DNB - You don't have to sell me on Brisbane. I live here too and fully agree with what you say. With all the wonderful advantages of being here in Brisbane are there any problems or dislikes you have with living and diving here?

Joh - Oh, yes. There are disadvantages wherever one lives. It is a bind having to travel so far in a boat to dive sites, whereas some other cities and towns are closer to dive destinations or you can dive off beaches or rocks. Another aspect I don't like is my discontent with dive charter operators.

DNB - Your "discontent"! What does that mean?

Joh - Well, I can't afford my own boat and most of my friends don't own one so I book on dive charter vessels for my diving trips. When I visit dive shops around Brisbane I'm always on the lookout for new boats because, until now, I'm not really satisfied with those I've been on. Believe me, I have dived with many charter boat companies and there has only been one trip in the last three years I can honestly say I enjoyed, felt comfortable and safe on.

DNB - Could you detail some of the problems you've experienced?

- Sure!! Some of the boats have not been adequately prepared or adapted for diving. I've actually dived off a boat that had no dive flag, no shot line, no J.C. line, no inflatable to pick up stray divers and a crew who knew nothing of diving



Holthuis's shrimps are very common residents in Moreton Bay sea anemones (size 20mm).



Beautiful little pineapplefish hide away in the artificial reef wrecks.

safety or divers' needs. On another boat I spent ¾ of an hour one night sitting freezing with eight other divers in the middle of Moreton Bay while we drifted without lights, electricity and with both motors out. During this ordeal the skipper didn't even contact the Coast Guard to explain our predicament. Let me tell you about the boat that pulled up anchor and was heading back to the Brisbane River before the Dive Master realized there were two divers missing. And what about the time I surfaced with a large group of divers after a cold night dive to discover our meal, prepared by the crew and part of the price of the trip, was lying over the deck of the boat and all that was left to fill our bellies was cold coke.

DNB - Are there any other instances that have upset you when travelling on charter boats?

Joh - There are lots of things that have occurred over the years. I remember the day I stood with a group of divers in the hot sun for an hour waiting for a boat to arrive. When it finally did everyone was expected to carry all our heavy equipment 300 metres to reach our illustrious, royal craft. Leaving the jetty after a one hour delay we journeyed down river for ten minutes before pulling into another jetty to refuel this "luxurious cat".

The rest of the trip I'd rather forget. Sour grapes maybe, but another nail in the coffin of dive charter experience for me. Hell!!! The more I think about it the more angry I become at myself for committing my money and my time to it - neither of those do I have any to spare.

DNB - Are there things that annoy you about diving off charter boats that are common to all?

Joh - Are you kidding? Have you ever tried getting geared up in a small area of the stern with 8 - 10 other divers all trying the same thing at the same time? It's hard enough in calm seas but when there are 1 metre swells - forget it! Have you ever been introduced to your dive buddy seconds before you disappear into the depths without knowing his/her name, tactics on communication, emergency procedures or without even time or agreement on dive plans equipment check? Talk about breaking all the rules, no wonder people have accidents or are scared off diving.

DNB - You sound pretty angry about all of this.

Joh - Too bloody right! I have to save up for these boat trips and then persuade my wife to allow me time away from my family before I can go. I question if diving is worth the effort, in fact, if I didn't love the sport



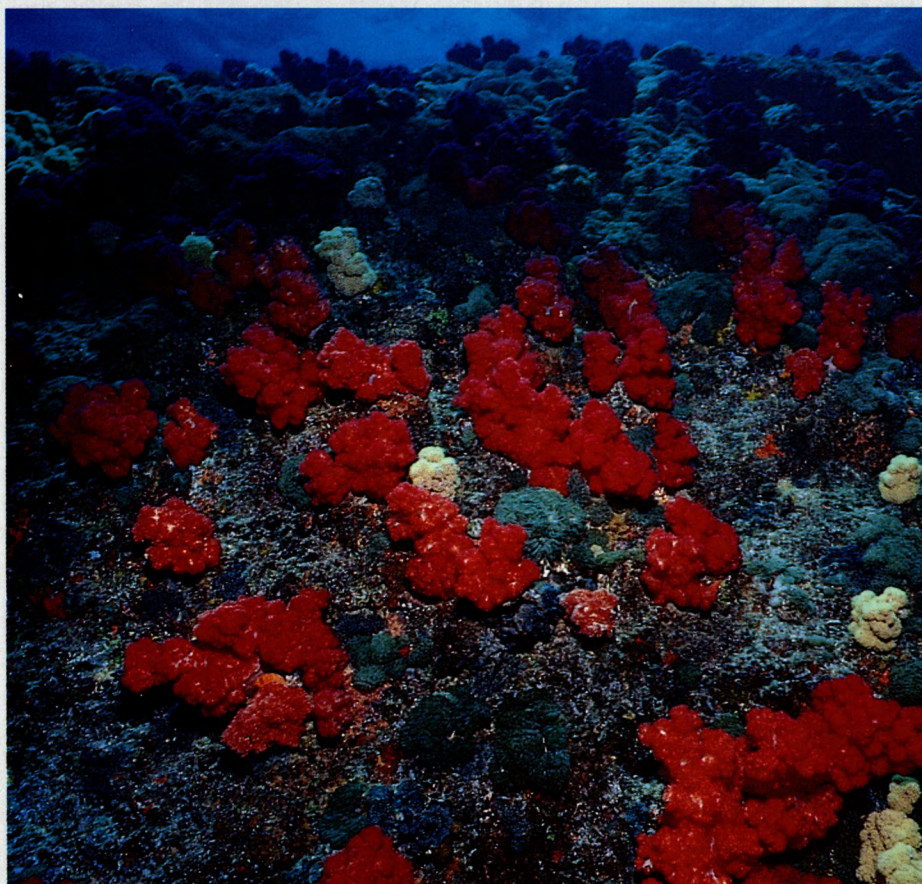
The car body reefs off Moreton Island provide excellent diving in sheltered waters.

so much I would have given up years ago. I want to dive but I don't believe I should have to jeopardize my health or life when doing it.

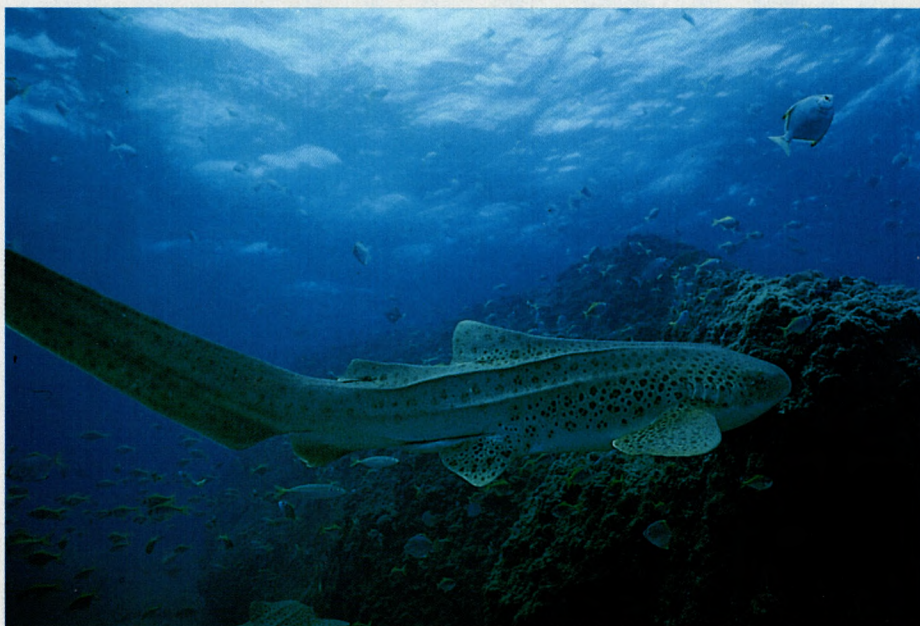
DNB - If you had the opportunity to address the operators what would you say?

Joh - That's an interesting question. First I would tell them exactly what I've told you. Then I would tell them to begin considering the safety and needs of the diving community as a whole, to get their act together or get out of the business and take up selling second hand cars or insurance. We divers don't want or need shonky operators in Brisbane. I would encourage them to accept that they have lives in their hands every time a boat leaves a wharf with divers on-board. I would also plead with them to ensure safety standards are always met and that Dive Masters organize and oversee those in their charge in a comfortable and safe manner.

HOW ABOUT IT EARTHLINGS!



Moreton Bay has species every bit as colourful as those on the Great Barrier Reef.



Leopard sharks are frequent visitors to the Shag Rock nursery area.

DNB - Would you be prepared to dive regularly with a dive charter company if all your requests were met?

Joh - Without question, and I would personally promote that company with all my friends and at dive shops I visit.

John Bjelke-Diver (name withheld to protect the innocent) is a real person with true experiences. There are more Joh's in Brisbane as I have spoken to quite a few. This dialogue was recorded not for the purpose of disenchantment with dive charter operators or, for upsetting individuals. It has been presented as a tool for education and a drive for a better exchange between what is, and what's needed. My concern is the safety and welfare of local and visiting divers and their families. Joh's challenge has been issued. If there are honest, safe, professional charter operators in Brisbane take up this challenge. You've got nothing to lose and the diving world to gain. If you feel that your operation is within the guidelines made by Joh, speak out and let us see Brisbane become Australia's safest and best city to dive in, after all Moreton Bay is the best we've got!

EDITOR: This article is published in the sincere hope that it will bring about a greater understanding between divers and boat operators and provide a basis by which we can all get on with the fabulous business of diving and looking after Moreton Bay.

The dive boat operators who appear at the beginning of this article guarantee to meet any of John Bjelke divers standards and offer each and every diver safe, professional services while diving Moreton Bay.

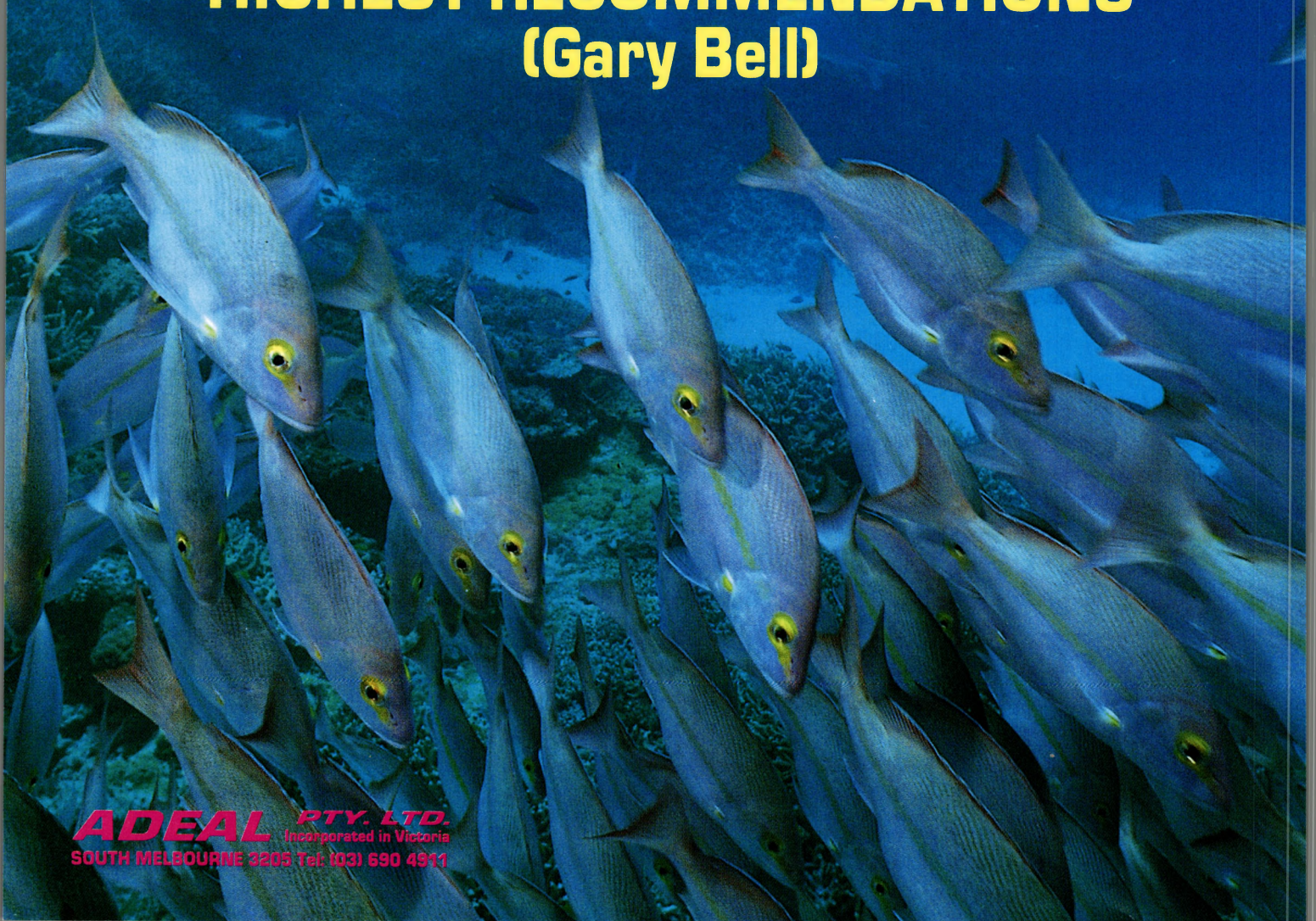
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Fuji Quicksnap

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UNDERWATER GEOGRAPHIC

PLAIN AUSTRALIA

PRODUCT REPORT

with GARY BELL



INTRODUCING THE NEW "FILM CAMERA MARINE"

If you aren't all that serious about photography and are searching for a simple to operate all weather camera that will take satisfactory pictures without costing an arm and a leg, search no further. ADEAL PTY LTD, of Melbourne have recently released another U.N. product from Japan, the new "Film Camera Marine". It's a waterproof underwater camera housing designed exclusively for use with the disposable Fuji Quicksnap Flash Camera (Film with Lens/Flash) and can be used on the beach, in the surf, out on the boat, when snorkeling and even when Scuba diving.

The housing is made of a tough transparent polycarbonate resin which allows the photographer to see clearly the exposure counter at the top of the camera and the flash ready light at the back. Should the housing ever leak, water is easily detected. At your finger tips are three outside controls (which incidentally can be easily dismantled and maintained), the shutter button lever, film advance knob and the flash activating button. Installing the Quicksnap Flash Camera into the "Film Camera Marine" housing is very easy. Simply unfasten the two spring-loaded stainless steel buckles, ensure the main O-ring is free of foreign particles and lightly lubricated with silicone grease, insert the camera (there are no screws or clamps), place the two housing halves back in place and then fasten down the buckles.

When I tested the "Film Camera Marine" at Heron Island recently, I found it very reliable and definitely a pleasure to use out on the reef. The manufacturers claim that the housing is pressure tolerant to a depth of 30 metres. Although I didn't take it down to this depth, all three controls operated as smoothly at 25 metres as they did 3 metres below the surface and I have no doubt in this claim. To advance the film from one frame to the next it's simply a matter of cranking the control knob with the index finger and thumb of the right hand. The shutter button lever is activated by the right index finger and the flash activating button by the left index finger. The camera flash is situated about 6cm from the lens. For this reason, I highly recommend that pictures are taken using the ambient natural light rather than flash in all but clear water conditions, as this will eliminate any back - scatter problems. The camera and housing complete has positive buoyancy and will float to the surface should you ever lose grip. For safeguard, a nylon cord for use as a neck strap is supplied.

For such an inexpensive piece of camera equipment, I was amazed by how well the "Film Camera Marine" performed underwater and my overall picture results. It will no doubt provide the low budget photographer with hours of enjoyment and has my highest recommendation.



model Libby Grant

- | | |
|--------------------------|------------------------------|
| ■ CONSTRUCTION MATERIALS | ■ OUTSIDE CONTROLS |
| ■ BUCKLES | ■ OPERATIONAL |
| ■ STRAP | FUNCTIONS |
| ■ SIZE | ■ EASE OF OPERATION |
| ■ SHOCK RESISTANCE | ■ MAINTENANCE |
| ■ WATERPROOF O-RING SEAL | ■ VALUE FOR MONEY |
| ■ DEPTH RANGE | ■ PRODUCT RECOMMENDATION |
| ■ EXCELLENT | ■ GOOD ■ FAIR ■ NOT PROVIDED |

SPECIFICATIONS

MAIN MATERIALS:	Mono block Transparent Polycarbonate, Resin Stainless Steel
WATERPROOF STRUCTURE:	Pressure sealing method with O-ring and spring loaded buckles
SUBMERSIBLE LIMIT:	Depth of 30 metres
OUTSIDE OPERATION:	Three Operations 1. Winding of Film 2. Shutter 3. Flash
DIMENSIONS:	157 (w) x 73 (d) x 87 (h) mm
WEIGHT:	190g (Not including film)
ACCESSORIES:	Strap, Silicone Grease, Silica Gel
RELEASE OF PRODUCT:	From November 19/89
UNIT PRICE:	Suggested retail: \$175.00



FLINDERS PIER — SEA GRASS MEADOW

by Chris Rimmer



The little town of Flinders on the east coast of the Mornington Peninsula doesn't get much of a mention in the guide books. It's a bit of a sleepy backwater nestled among the grassy rolling hills that surround rugged Cape Schanck. It's a pleasant enough town but its main attraction for the scuba diver and underwater naturalist is the remarkable Flinders Pier.

Stretching several hundred metres into the Southern end of Western Port Bay, the pier would have to rate as one of the most

exciting pier dives in Australia. The thick wooden pylons are ideally situated to receive a healthy flow of nutrients from Bass Strait every flood tide. The depth at the end of the pier (7 to 8 metres) is also an added attraction to some of the large schools of pelagic species that appear, normally during the summer months.

Immediately under the pier the visiting diver will find the usual assortment of discarded junk. Old car tyres, bottles, broken bricks and even a large boat

engine. Look closely however, and you will see that this junk is home to several species. Bat-wing slugs, juvenile Scaly Fin, many nudibranchs and sea spiders all compete for territory, shelter and comfort among the refuse that we no longer have use for.

Look closely at the pylons they play host to a myriad of species Gorgonians, Ascidians, Zoanthids and Finger Sponge all cling to the wooden structures. The end of the pier supports an impressive kelp bed which is a popular venue for Leafy Sea Dragon spotting. Schools of Old Wife and the odd massive Stingray are also found in this area which is an added boon for our underwater photographers.

The recent wrecking of a large fishing boat off the pier head is already showing signs that it will become a stunning artificial reef. Large Goat Fish, King George Whiting and various types of Leather Jackets have taken to this new food trap. Take a look inside the wheel house, there are always a few Bronze Bullseyes hovering inside as though in suspended animation. The sunken wheel house environment looks like a set from an old Sea Hunt episode.

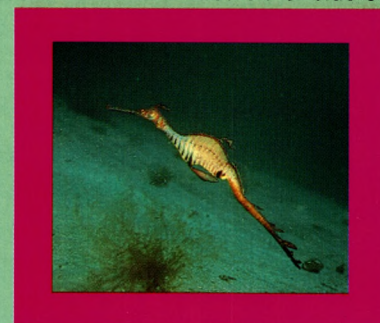
Perhaps the most delightful aspect of diving at Flinders Pier is the magnificent Sea Grass meadow that stretches out for several hundred metres either side of the

GENERAL INFORMATION

Best times of the year:	☒ Summer	☐ Winter	☒ Spring	☐ Autumn
Typical weather:	☐ Excellent	☐ Very good	☐ Average	☐ Fair
Accommodation available:	☒ Camping	☒ Hostel	☒ Hotel	☒ Motel
Airport:	☒ Light aircraft	☐ Jet	☐ International	☐ Helicopter

DIVE SITE GUIDE

Access:	☒ Boat ramp	☒ Charter boat	☒ Air	☐ Snorkel diving
Dive methods:	☒ Scuba	☒ Hookah	☒ Snorkel	
Types of diving:	☒ Boat	☒ Jetty	☒ Shore	
Description of dive site:	☒ Island	☒ Submerged reef	☒ Shore	
	☒ Wreck	☒ Shallow water	☒ Deep water	
Conditions at site:	☒ Current	☒ Swell	☒ Wind chop	
	☒ Tide changes	☒ Boat traffic	☐ Good visibility	
	☒ Fair visibility	☐ Poor visibility		
Dive time:	☒ In-coming tide	☐ Out-going tide		
	☒ Spring tide	☒ Neap tide	☒ Slack tide	
Underwater terrain:	☒ Drop offs	☒ Gutters	☒ Patch reefs	
	☒ Sand & rubble	☒ Rocky reef	☒ Flat bottom	
	☒ Low profile reef	☐ Coral reef	☒ Slope	
	☒ Caves	☐ Swim-throughs	☒ Silty bottom	
Marine life:	☒ Kelp	☒ Sea grass	☒ Sponges	☐ Corals
	☒ Sea whips	☒ Sea fans	☐ Black coral	☒ Soft corals
	☒ Anemones	☒ Fan worms	☒ Bryozoans	☐ Brachiopods
	☒ Crays	☒ Crabs	☒ Shells	☐ Commensal shrimps
	☒ Nudibranchs	☒ Cuttles	☒ Scallops	☒ Abalone
	☒ Sea stars	☐ Basket stars	☒ Sea urchins	☒ Feather stars
	☒ Ascidians	☒ Sea lions	☒ Dolphins	☒ Whales
	☒ Sharks	☒ Fish	☒ Numerous fish	☐ Abundant fish
	☒ Pupil	☒ Beginner	☒ Intermediate	☒ Advanced
Experience level:	☐ Excellent	☒ Very good	☐ Fair	☒ Photography
Dive site rating:	☒ Marine reserve	☐ Protected species	☒ Quotas	☒ Collecting
Management of resources:				



Weedy Sea dragon

pier. If you enjoy watching the 'helicopter' antics of the little Shaw's Cow Fish, or perhaps searching for the large Southern Blue Spotted Flathead that lurk in the grass. Various species of shrimp are also found here as well as many other tiny creatures that will reveal themselves to the diver who looks carefully enough.

Several species of Cowfish and Boxfish frequent this area. I have seen Starry Toadfish, Shaw's Cowfish and Ornate Cowfish all happily living together with Big Bellied Seahorse, Common Seadragon and the odd White's Seahorse. Keep a sharp look-out for groups of Port Jackson Sharks especially in winter.

All this sounds too idyllic to be true doesn't it? Flinders Pier is all this and more but its delicate ecology is currently under threat. And why? Quite simply from the thoughtlessness of certain individuals who show a blatant disregard not only for the law, but also for the comfort and well being



Shaw's cowfish (female)

of others. Bilge pumps are emptied by fishing boats without a thought to consequences this action has on the local marine population. Spearfishermen, some on Scuba, spear fish around the pier, an activity that is in fact illegal in this state. Anglers, for some unknown reason, immediately destroy any fish that they are

unable to eat. These inedible fish include the delightful Cowfish and Boxfish.

I cannot understand the mentality of some people. The so called 'trash' fish is cast alongside the pier in the hot sun just because it cannot be eaten. Why in God's name don't they return the unwanted catch to the water? Your guess is as good as mine.

One thing is for sure, if there isn't some effective policing of this fragile area there will be no fish, edible or otherwise. The various groups who use the pier have to get together to discuss a strategy so that all legal interests, both sporting and professional in the area can be catered for. I must say that the prospect of this happening in the near future seems somewhat remote. Anglers have been known to deliberately jig divers. None of this is helping the ecology of the pier and that, at the moment, is the only real certainty in the dispute.



Old wife

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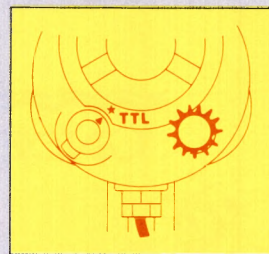
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UNDERWATER GEOGRAPHIC

PLAIN AUSTRALIA

PRODUCT REPORT

WITH NEVILLE COLEMAN



THE EXCEPTIONAL PERFORMING **SUNPAK**® MARINE auto 2400

Test unit supplied by Maxwell Optical Industries Pty, power source 4 varta AA 1.5v batteries, film (Fuji) 50 I.S.O. Location: Heron Island.

Due to weather conditions prevailing at the times this flash unit was tested over a period of three months, all tests were carried out in conjunction with Nikonos IV 35mm lens and the Nikonos close up lens and framer. I've no doubt that the manufacturers specifications comply at other distances and when used with other combinations, this medium range super-light with its excellent style, simplicity of operation, reliability and price would suit even the most discerning underwater photographer.

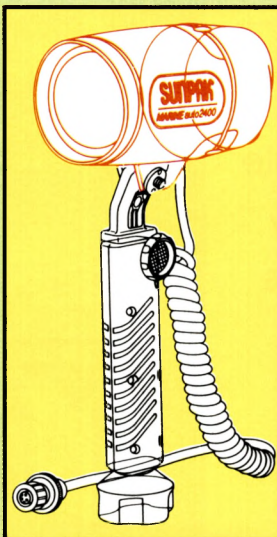
Both manual and automatic mode were tested and each proved to be within a whisker of the guide No. selections with F16 being the average aperture selection at the 1ft (30cm) distance. The marine grip (flash arm attachment) which came with the unit was simple to assemble. All functions proved easy to work underwater and gave good results. These features, along with the SUNPAK marine auto 2400 60 metre depth range and specially designed double safety battery compartment (which is sealed off from the rest of the electronics in case of user error) (flooding) give it added value. For its size and output it is without doubt, over short range, a worthy competitor to the SB102 and I'm sure it will make its mark wherever it is available.

- | | |
|-------------------------|--------------------------|
| Size | Double battery chamber |
| Construction materials | Battery cap lock |
| Power output | Marine grip |
| Battery | Marine grip coverage |
| Recharging time | Marine grip functions |
| Flash angle | Sync. cord and connector |
| Colour temperature | Depth range |
| Automatic mode function | Value for money |
| Manual mode function | Instruction sheet |
| Flash ready light | Product recommendation |
| Mode switch | |
| Excellent | Good |
| Fair | Not provided |

F. STOP	ASA/ISO					Automatic Distance Range	
	25	50	100	200	400	m	ft
				2.8	4	1.4~6	4.6~20
			2.8	4	5.6	1~4.3	3.3~14
		2.8	4	5.6	8	0.7~3	2.3~10
	2.8	4	5.6	8	11	0.5~2.1	1.7~7
	4	5.6	8	11	16	0.4~1.5	1.3~5
	5.6	8	11	16	22	0.3~1.1	1~3.6
	8	11	16	22		0.3~0.7	1~2.5
	11	16	22			0.3~0.5	1~1.8
	16	22				0.3~0.4	1~1.3

SPECIFICATIONS

- **G.N. (UNDER WATER):** 12-ASA/ISO 100 (FULL)
- **(ON LAND):** 24-ASA/ISO 100 (FULL)
- **COVERAGE:** 28m/m lens • **POWER SOURCE:** 4 x 1.5V AA AL OR NICAD BATTERY • **RECYCLE TIME:** AL BATTERY -6.5 SEC: NICAD-4 SEC • **No. OF FLASHES:** AL BATTERY-140 (MORE IN TTL) NICAD-70 • **FLASH CONTROL:** TTL W/NIKONOS V • **FLASH CONTROL RANGE:** 0.3-4.3m (ASA/ISO 100) • **PRESSURE:** TESTED TO 60 METRES (200ft) • **DIMENSIONS:** 163 x 88 x 113mm • **WEIGHT:** 700g (-50g UNDER WATER) • **ACCESSORY:** O-RING SET





UNDERWATER



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TANGA CLEAN UP PROVES A HUGE SUCCESS

Over 100 divers gathered at the Tangalooma Wrecks on Moreton Island near Brisbane to aid in the "Clean Up Australia Campaign" on Sunday January 21st.



Photo by Paulette Clayton (courtesy Sunday Sun newspaper).

Adventure Sports of Brisbane was approached by representatives of the Brisbane City Council to organise the event and co-ordinate the activity with the Australia Clean Up Committee. Approximately 2 tonnes of rubbish was removed from the area which has brought the total tonnage of rubbish removed to over 6 tonnes during the last 2 and one half years the Adventure Sports has organised this event.

Helping to make the day a success were members of the Moreton Bay Trailer Boat Club, Qld Uni Dive Club, NAUI, PADI, FAUI and even Neville Coleman showed up to offer his support. The event was covered by all the local TV stations as well as representatives of the local and national press. Councilman Stegman from the Brisbane City Council was representing the Lord Mayor and thanked all the participants for their efforts in cleaning Brisbane from "top to bottom."

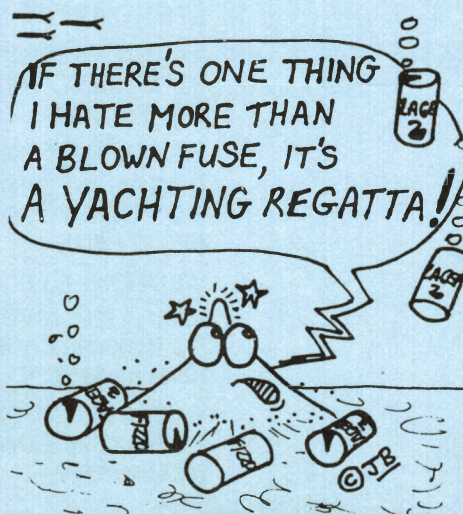
Phil Feldman, owner of Adventure Sports, commented that there is still plenty of rubbish at this popular dive spot and he hopes that these events would raise the consciousness of the boating community of the damage that is being done to the environment by dumping plastics and other rubbish overboard. "If we can stop people from

adding to the litter, I think we have accomplished our aim," Mr. Feldman said.

Further, Mr. Feldman added that although more rubbish can be removed during future events, the legal complications involved in organ-



What it boils down to is diminished personal responsibility and that's what causes environmental problems in the first place. Hell! If we can't be responsible for our selves and our actions who can? Surely NOT NATURE? What about human nature?



ising events of this kind will force him to "rethink" his level of involvement in future community projects. "What with various State Regulations and legal implications for the organiser, I will probably not do another activity like this one again. It's a real shame because divers from all over S.E. Queensland have a chance to get together on a social basis for no individual gain and demonstrate to the community that they are concerned with community issues like the environment and stress the family nature of the sport and participate without having an accident which makes the front page news. In the past years, individuals (divers) were responsible for their own actions, but in today's society, the individual is ready to shift blame for an accident to someone else and try to collect compensation for their own mistakes."

"We can't keep people surrounded in cotton wool to protect them from themselves all their life. They must have enough confidence in their own skills and intelligence to make a decision and be responsible for their actions. At any rate, the future of these types of events may be numbered and our news reporters may just be printing the "horror" stories that so often appear in print. Whatever happened to the good news stories?"

The Banksia Environmental Awards were created to acknowledge the environmental achievements of individuals, organisations and companies. There are twelve categories of Awards, judged by experts from all over Australia. The Awards will be presented at a Gala Dinner at the Hyatt On Collins, Melbourne on June 9th 1990.

The Banksia Awards are supported by governments, industry, corporate business leaders, the Australian Conservation Foundation, the Commission for the Futures, the media and the United Nations Environment Programme.

The Awards focus on positive solutions while acknowledging that our future and the environment can live hand in hand. To nominate for one of these prestigious awards, please contact Robin Crawley on (03) 388 0672 for further details.

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• AGRIBUSINESS AND PRIMARY PRODUCTION

This award is for either an individual or organisation whose achievements in the field of agriculture and/or primary production are seen to have made the most significant contribution to environmental achievement within these industries.

• COMMUNITY LANDSCAPE

This award is for either an individual or Landholder groups whose efforts in the field of land management and sustainable productivity have enhanced, beautified and protected the environment.

• COMMUNITY SERVICES RELATING TO THE DIRECT ENHANCEMENT AND PROTECTION OF THE ENVIRONMENT.

This is awarded to an individual, organisation or body of individuals which through their efforts on behalf of the community, are seen to have made a significant contribution to the enhancement, beautification and protection of the environment.

• INNOVATIVE TECHNOLOGY

This is awarded to either an individual or organisation for practices and achievements in the development of Innovative Technology that are consistent with an environmentally sound future.

• MEDIA

This is awarded to an individual, a corporate body or an organisation within the media, who has made a significant contribution to the raising of environmental awareness.

• POLLUTION CONTROL TECHNOLOGY

This is awarded to either an individual or organisation for practices and achievements in pollution control.

• RECYCLING

This award is for innovation, achievement or development and implementation of recycling processes, projects or schemes that are contributing to the conservation of our Earth's natural resources.

• WATERWAYS AND MARINE

This award is for an individual or organisation for achievement in the conservation and/or restoration of our waterways or marine environment.

The BANKSIA ENVIRONMENTAL FOUNDATION

are aware that schools and governments need to be leaders in environmental achievement.

The following awards recognise this. **PRIMARY SCHOOLS** This will be awarded to a Secondary School which has raised the level of environmental awareness and/or made a significant contribution to the enhancement, beautification or protection of our planet.

• LOCAL GOVERNMENT

This will be awarded to a local Government which implements projects or schemes which have a significant impact on the environment.

• STATE/FEDERAL INSTRUMENTALITY

awarded to a State or Federal Instrumentality which implements projects or schemes which have a significant impact on the environment.

For further information on the Banksia Environmental Awards contact Mr. Robin Crawley on (03) 388 0672, (03) 388 0600, Fax (03) 387 5608 or write to: Banksia Environmental Foundation 225A Brunswick Street Brunswick Victoria 3056

1990 Judges

1990 JUDGES

Mike Juleff	VIC	Richard Oliver Risk Managers Environmental Engineer
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Dame Phyllis Frost	VIC	Founder, Keep Australia Beautiful
Philip Noyce	VIC	Commission For The Future
Robert Fowler	S.A.	Environmental Lawyer
Penny Vandosterze	N.T.	Research Scientist
Neville Coleman	QLD	Underwater Naturalist Sea Australia Resource Centre
Dr. Roger Maulden	CAN	Commissioner Industries Assistance Commission
Hayley Anderson	NSW	Environmental Journalist - Earth Watch
Faye Goodchild	NSW	Features Editor - Earth Quest
Dr. Beth Schultz	W.A.	Environmental Research Lawyer
Prof. Peter Newman	W.A.	W.A. Premier's Dept. Environmentalist
Eddy Tamlin	W.A.	President W.A. KAB
Rob Gell	VIC	Environmentalist
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1990 PROGRAMME

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Melbourne Vic. 24th Aug. to 26th Aug. **UNDERWATER PHOTOGRAPHY CERTIFICATE COURSE**. Weekend workshop. (P.A.D.I., N.A.U.I., F.A.U.I., S.S.I., A.U.F.) Contact: A.B. Ocean Divers (03) 579 2851.

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SCUBA DIVERS FEDERATION (WESTERN AUSTRALIAN BRANCH) MEMBERS SUCCESSFULLY COMPLETE NCAS APPROVED INSTRUCTOR TRAINING PROGRAMME



From left to right: Mr David Hay (Assistant National Examiner FAUI), Mr Jak Denny (National Examiner FAUI), Mr Ian Milliner (Secretary NSQC), Mrs Nancy Cummins (Training Manager PADI Australia), Mr David Sawyer (WA Branch Manager NAUI Australia) and under examination Ms Bonnie Birch (President SDFWA).

Mr Hugh Morrison was given the job of conducting the course with the WA Ministry of Sport and Recreation funding the programme. Though the participants initially lacked both experience and knowledge, the two and half month part time course saw each candidate work more than 20 full days some 40 nights, totalling in excess of 360 hours.

The programme culminated in an examination phase which was conducted under the auspices of the NSQC on the 16th and 17th of December. An unprecedented level of co-operation between the various instructor agencies saw a panel of examiners including Mr Jak Denny

(National Examiner FAUI), Mrs Nancy Cummins (Training Manager PADI Australia), and Mr Dave Sawyer (WA Branch Manager NAUI Australia) put each candidate through the gruelling two day examination programme.

Six of the eight participants were awarded outright passes and have gained NCAS Level II scuba instructor certification, one received a provisional pass, and one was awarded NCAS Level I certification.

The NCAS Level II accredited SDFWA Instructors have been given approval by both the AUF through the NSQC, and the WA Ministry for Sport and Recreation to conduct Scuba Instruction.

Certification cards issued by these instructors will be distinctly different from certification cards previously issued by non accredited SDFWA instructors. Each card will show the NCAS course number SD2 777777, and the Instructors personal SDF number. The divers trained by these SDFWA Instructors have met an appropriate standard and should be given services to the level indicated on the card. If there are any queries concerning these new qualification cards or the qualifications of the Instructors concerned, please contact the Secretary of the AUF's National Scuba Qualification Commission, Mr Ian Milliner on (09) 344 7882.

IN MEMORY OF JIM BROWN O.A.M. (Pioneer Diver -U/W Photographer)

by Vincent Serventy

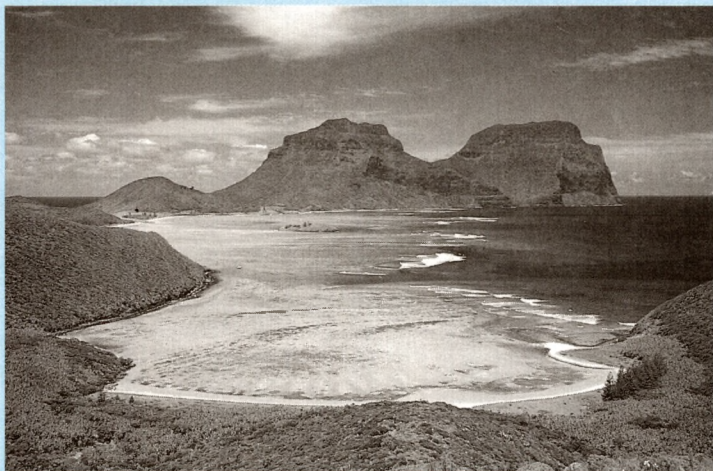
A great Australian died recently.

He was James Brown, but we knew him more affectionately as Jim. I met him back in 1966 when he and Mabel invited Carol and myself to dinner in Sydney. He asked me to address the Wild Life Preservation Society of Australia of which I was a life member having joined many years ago in Western Australia. Jim and Mabel convinced me I should stand for the Presidency and with only a few breaks I have held that position ever since. Jim as vice-president always was a tower of strength in the conservation struggles which went on during the next twenty years. He also led many of our excursions.

During those years I learned more about his career. Having to take over the responsibility of his mother, three sisters and a brother when his father died at an early age, Jim not only made a career for himself by his inventions but he also took part in football, surfing and finally in gymnastics. He achieved great fame, not only becoming an Australian champion but also a judge representing our nation in four Olympic Games. He was made a life member of the Australian Association of Gymnasts.

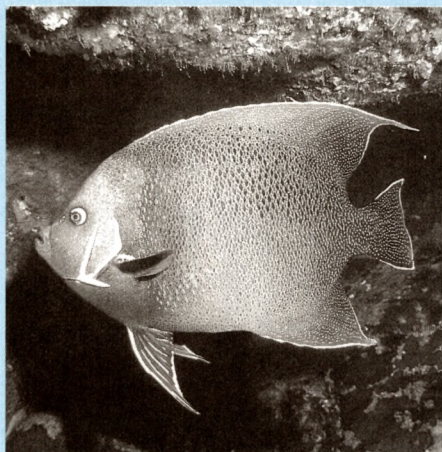
REQUIEM FOR THE MAN WHO LOVED LORD HOWE ISLAND

*Farewell, old friend!
Our wish for you
Not heaven's green pastures, but
A little, lovely island
Set in peacock seas,
With towering peaks, cloud capped
With rustling palms.
And soaring sea birds,
White as breaking waves.
And old friends - diving buddies -
Still to share with you*



*The joys of sailing on a sun-
drenched sea!
A lifting swell. A strong hand
On the tiller, and below
Enchanted worlds of colour -
Coral reefs and brilliant cruising fish
You captured them on camera -
Not on hooks.
Oh, how you loved
This rare, exquisite place!
How hard you worked
To save this heritage!
Part of the magic fabric
of your dreams
And now
A closely guarded gem,
A tribute to your caring.
Thank you, Jim.*

Jean Edgecombe, 30/7/89



It was in nature conservation we knew him best. A life member of our Society, he introduced me to the delights of Lord Howe Island. He went there first in 1938 and then in 1945, became involved with the underwater world through mastering the science and art of scuba diving and underwater photography.

His tireless support of having this most beautiful island in the world made into a national park, both above and underwater, culminated in the declaration not only of the land reserves but also its listing as a World Heritage Park. Jim convinced Neville Wran, Premier of NSW of the beauty of this island through acting as a guide to Neville and his wife Jill. Some of his photographs were used in the nomination document which convinced the world committee that Lord Howe Island should be dedicated as one of the crown jewels of the natural world.

The Wild Life Preservation Society nominated him for an Australian honour and in 1986 he was made a Member of the Order of Australia.

We will miss him not only for his encouragement but for the good humour and assistance he gave all of us.

Our Society will consider how best we can make a permanent memorial to this great conservation figure. The author would like to hear from any member who can give other details of his life history.

Suggestions for a memorial and financial contributions towards it would also be of value.

A poem, written by our member Jean Edgecombe and read at his funeral service is a fitting close to this tribute.



NEW DIVE SHOP FOR W.A. 'Q. DIVE' EXMOUTH

Q. Dive Exmouth has been in operation now for several months. Situated on Lot 102 Murat Road, Exmouth, Q. Dive is the first professional sport diver training centre in the Exmouth area.

Q. Dive is a N.A.U.I. facility and offers dive courses for beginner through to the more advanced diver.

A full range of equipment, hire, sales and service is available from the Centre, along with the best advice and help available to get in the water with as little fuss as possible.

Exmouth is situated on the northern end of the 'Ningaloo Marine Park' and has diving of quality to rival the best in Australia; 260 kms of fringing reef, Australia's true barrier reef, untouched, unspoilt and unexploited.

Some of the best diving locations are directly off the beach, making the diving relatively inexpensive and without the hazards of sea sickness.

For the more adventurous, boat dives, night dives and wreck dives are available on a regular basis.

Q. Dive has put together several diver holiday packages which include budget airfares or bus fares with accommodation and diving included.

Whether you are coming to Exmouth for a day or a week, drop in to Q. Dive. Bruce or Sue will be available to help make your diving holiday one to remember.

Q. Dive Exmouth Lot 102 Murat Rd Exmouth 6707
Q. Dive Exmouth P.O. Box 596 Exmouth 6707

Ph: (099) 491 6620



NAUI AUSTRALIA introduces PROJECT S.A.F.E.R. DIVERS

An initiative sponsored by the National Association of Underwater Instructors (NAUI) AUSTRALIA and NEW ZEALAND has been made to correlate and analyse the most recent diving-related accident data available. Hans Telford, Training and Educa-

tion Director said that "NAUI members are concerned with the fact that the data necessary to show accurate safety trends for recreational diving is just not available. Certain groups and individuals talk of 'acceptable accident statistics' or 'acceptable risk level' - well, if you've just been the victim of a diving-related accident, being an 'acceptable statistic' is not very comforting!"

Mr Telford further added "that the Project (acronym for "Statistical Analysis File of Emergencies for Recreational Divers") is a valuable and essential exercise to take a long, hard look at our industry and come up with some practical solutions. NAUI's goal is, and always has been to eliminate diving accidents altogether."

The project essentially involves the co-operation of the hyperbaric medicine units operating through the Diver Emergency Service (D.E.S.) network in Australia and New Zealand to complete comprehensive questionnaires requesting diving-accident data and canvassing their expertise and experience involving the treatment of cases as to the cause(s) of diving accidents.

NAUI AUSTRALIA OFFERS A 10 POINT SUGGESTION PLAN TO PRESERVE OUR UNDERWATER ENVIRONMENT

Hans Telford, Training and Education Director of NAUI AUSTRALIA announced today "In a move to educate divers and other water-users in the conservation of our marine environment, the NAUI AUSTRALIA Environmental Task Force has suggested the following 10 point preservation plan to utilise, ensuring that the undersea world be maintained for our present generation of divers and other water users as well as those of the future. Realistically, environmental conservation can only be achieved by individual concern and constructive management of the diving environment. The Fisheries Act (protection of fish species) and the Environmental Protection Act (control of pollution) are not sufficient to provide total conservation measures."

Mr Telford further said that "the suggested 10 point plan will be offered to students of NAUI diving courses as well as being given to relevant government departments and interested groups involved in marine use and conservation." The suggested plan was written by Hans Telford, Graham Cook, Meredith Cook and Glen Savage, all active instructors with the NAUI diving association based in Capalaba, Queensland.

- **1. Avoid careless and indiscriminate littering or dumping in and around water areas** (foreshores, dive sites, fishing and recreational sites). Items such as plastics, oils, chemicals and metals have a devastating effect on the marine life. Essentially, don't throw it - stow it!

- **2. Remove any litter that you see in and around water areas.** Plastic bags, fishing line, bottles and cans can be easily picked up and disposed of, however if you are incapable of moving other forms of water pollution, contact your local, state and federal member immediately. Governments are very much alerted to water pollution problems.
- **3. Avoid souveniring when diving** - photograph rather than remove or destroy. Leave dive sites intact.
- **4. Avoid bumping into or excessive handling of the coral and reef formations.** Many forms of coral and sessile marine life are extremely fragile and easily destroyed by careless diver movements and actions. Exercise good buoyancy control throughout your diving. Also, avoid teasing, hassling or chasing timid marine creatures such as turtles, rays etc - thoughtless actions may disturb their natural life cycle.
- **5. Boat-users - avoid anchoring directly on a reef, coral reef or wreck site.** Always anchor away from the reef area itself. Moorings should be used in popularly used spots.
- **6. Boat-users - respect marine mammals; cut motors when near whales, dolphins, dugong etc.**
- **7. Respect the local fishery and game regulations. Avoid over-fishing. Respect the preservation laws of endangered species.** Fishery Departments and National Parks & Wildlife Offices can give you a great deal of information in this regard. Check out the laws prior to considering any form of game taking. Certain areas may even prohibit any form of recreational diving or fishing.
- **8. Don't condone or passively accept the misactions and abuse from others of the marine environment. Report any abuses and deterioration of the environment to the appropriate authorities.**
- **9. Promote or help develop marine life propagation schemes** (artificial reefs, fish attracting structures etc). These are extremely beneficial in building up marine life species and restore an underwater ecosystem to a balanced state.
- **10. Gain an appreciation and understanding of the marine life and aquatic life cycles** in order to respect and better preserve it. Reading books, doing courses or just simply diving and observing marine life are excellent ways of accomplishing this.

Remember - Prevention is better than the cure! Protect and preserve our seas! We have only the one ocean on this planet for us and our future generations to use.

**UNDERWATER
GEOGRAPHIC
Our Seas - Our
Shores - Ourselves**

"SCUBA SPORT"



NEW DIVE BOAT BOOST FOR TOWNSVILLE TOURISM

A new dimension has been added to dive tours in Townsville with the introduction of the city's only scheduled specialised day trips for divers and snorkellers to the Great Barrier Reef and famous Yongala wreck.

Scuba Sport, a half million dollar 14.6 metre fast catamaran purpose-built for the work, runs six days a week from the Breakwater Marina.

It visits the Yongala wreck each Monday, Thursday and occasional Saturday or Sunday, and reefs of the Great Barrier Reef Marine Park within 50 nautical miles of Townsville, like Wheeler, Keeper, Lodestone, Centipede and Helix on Tuesdays, Wednesdays, Saturdays and Sundays.

Prices for reef day trips range from \$75 for passengers only and snorkellers to \$85 for scuba divers, with Yongala trips costing \$115.

Scuba Sport, owned and operated by Mr. Bob Kent, travels at 23 knots fully loaded (30 knots light).

Mr. Kent said the 7 am departure and 4.30 pm return allowed plenty of time for diving, with the early start also providing the best possible time for travel.

"Although Scuba Sport is in survey for 49 people for day cruises and seven for overnight, we try to limit numbers to about 20 scuba divers, up to 10 snorkellers and up to five dive staff as the normal maximum load for diving operations," he said.

The crew are all fully qualified diving instructors or divemasters, with support from divemasters in training. Underwater tour guides are provided for various groups, as required.

Mr. Kent said he and his wife Kay decided to establish the operation in Townsville after closely investigating the potential of Townsville, Cairns and Darwin.

"Tourism is a very volatile industry, but Townsville has a broad economic base, a strong local dive industry and excellent reefs are relevant close," he said.

The Yongala shipwreck, off Cape Bowling Green near Townsville, is also regarded as Australia's best wreck dive and one of the five best wreck dives in the world.

He said Scuba Sport complemented the existing overnight and longer dive cruises offered by Queensland's leading dive charter operator, Mike Ball Watersports, and worked in co-operation with that company.

and boat crew.

Many of the passengers are participants in

dive courses who travel aboard Scuba Sport with their instructors.

"Scuba Sport adds a new dimension to the industry in Townsville in that it provides the only scheduled single day dive trips in a fast vessel purpose-built for this work," Mr. Kent said.

Scuba Sport was built by Atlay Cats and Service Pty. Ltd. on the Gold Coast to a specially modified Cougar Cat design including every possible feature a discerning day diver could require.

Mr. Kent spent months of research, numerous trips on other dive vessels and consultation with some of Australia's leading dive industry operators to come up with a precise list of parameters for the design.

Some of the features include a large, shaded kitting-up area and individual tank storage and dive gear storage unit built into each dive deck seat.

Large, easy to use exit ladders extend 1.5 metres into the water, fresh water sinks for rinsing gear are built into the transom and the dive platform has a fresh water shower.

Safety equipment such as 'Mermaid' line, shot lines and decompression lines with surface supplied regulators attached are built into the dive deck design.

"In the unlikely event of an accident, oxygen and resuscitation equipment are also carried," Mr. Kent said.

The saloon features deeply upholstered lounge style seating, a fully equipped galley, piped music, video system and a dive equipment spare parts locker.

The interior is tastefully decorated in subtle grey and blue tones, accentuating the timber work which is Silver Ash, giving a light, spacious feel to the area.

The enclosed wheelhouse is fully equipped with 72 nautical mile radar, HF and VHF radios, auto pilot and video sounder, AM/FM radio, CD player and intercom system. Seating is also provided for 10 passengers in this area. A sun deck and boat deck are situated behind the wheelhouse.

A 4.0 metre Avon dive tender is also stored there while Scuba Sport is under way, and is lowered into the water by a 12-volt davit when diving is taking place.

Scuba Sport is powered by twin 450 hp Detroit diesels, which give it a speed of up to 30 knots and provides a fast trip to the reef.

Individual bookings or group charters can be made for Scuba Sport by phoning (077) 21 2112 or (077) 21 1854 or by faxing (077) 72 1436.

Scuba Sport specialises in day trips to the Yongala shipwreck and advance bookings are advisable.

Further information: Bob and Kay Kent, Scuba Sport, P.O. Box 2023, Townsville, Australia 4810.

Listen to a Lonely Sea

I tried to explain,
But you could not listen,
Ensnared by jigsaws of routine,
Hoping for answers yet unseen,
Hurting with others in their fears,
Shedding your private tears,
You found no time to listen.
My tide pulled out,
And took you too,
With nothing left now to do.
Your heart recoils from within,
A lost soul dragged eternally,
Where crying stars dim the sky,
And touch me as I ripple by.
No one can ever hope to win,
Or listen to me.
but a child hears with naive ears,
Through a shell crystal clear,
My raging force and glory high,
Above the gulls' raspy cry,
As crested waves kiss my shore,
He listens eagerly for more.

Maggie Hollingworth

WET SUB AT

BOTANY BAY

by John Glennan

It has finally happened, a reprieve from the BIG WET. With the arrival of blue skies, crisp cool days and moderating swells, I couldn't resist the opportunity of unleashing my adrenalin and testing my well used but newly modified wet submarine known as the EXPLORER.

The day chosen was perfect, fine weather, just being on the water was exciting. My father Jack and brother David were navigating Jack's new Seafarer 17 and the 90 hp Johnson was motoring at 4000 rpms while I kept a watch on the sub as it towed behind the boat for the first occasion. It was only a short 40 minute ride from the launch ramp at the Georges River Recreation area, Revesby to the marine reserve at Kurnell, Botany Bay. The only factor that appeared was going to fail us was the water clarity as recent rain kept the river muddy.

We anchored at the outer most southern tip of the bay and I geared up with the belief that I would only be able to test some new components of the sub just beneath the surface under the boat due to the restricted visibility. I'll admit to being disappointed at that point since it was months since I had been in the water.

I boarded my 3 metre undersea craft, it

was good to get back to the controls and, after a few checks, descended to two metres. The melding of salt and fresh water at this depth caused blurred visibility. I was not able to accurately read my instruments such as depth or compass. It seemed this was going to be a very short dive. I decided to abandon the dive, however, my attention was drawn over the side of the sub. There some 6 metres below was the bottom, the visibility down below this murky fresh water layer was excellent. So without delay I continued my powered descent to level out at 6 metres. I was ripping apart inside with excitement! Whilst on my descent I could see quite plainly how distinct the cut of point was for this murky layer of silt.

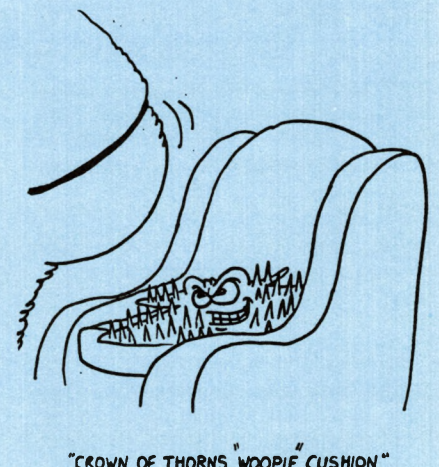
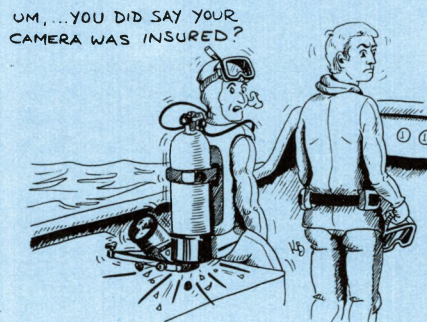
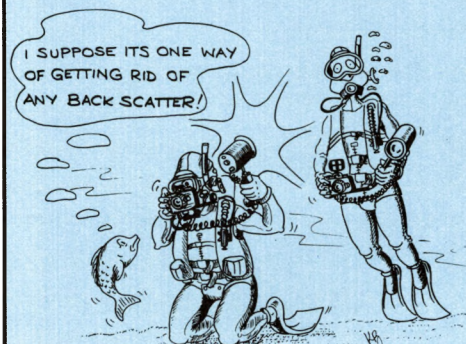
I continued a level flight of 2 metres above the rugged underwater terrain which consisted of large rocky outcrops covered in kelp that submitted to the incoming current and deep gutters sloping down to a flat sand bottom at 10 metres, all of this bursting with colour and life. The wet submarine was functioning to manufacturers expectations, my breathing was regular and relaxed with my air consumption down to the minimum though there was a one and a half knot current

running into the bay. I had pure underwater luxury!

The diversity of marine life was more prevalent and larger in size than I had witnessed in the area on previous dives. The fishermen must have been kept at home by the Big Wet. Leather Jackets, Old Wives, Yellow Tail and Groper all went about their tasks not noticing or maybe ignoring the sub's presence. It was a very private and relaxed world that I was visiting with these marine creatures as hosts and all this world was concealed beneath 2 metres of murky silty fresh water.

As I surfaced in the submarine I could not contain my excitement for as all divers know it makes more sense to laugh at the surface than lose a regulator on the bottom. Jack and David found all this excitement a bit much, exclaiming that it would have been impossible to see down there. This confirms my belief that scuba diving of any sort or in any spot can not only satisfy your senses and provide adventure, but also reward your imagination.

UNDERWATER TOONS





...10 Million Can. What is Project A.W.A.R.E?

The Professional Association of Diving Instructors (PADI) is the world's largest recreational diving and retailing organisation — nearly ten million new divers will experience the underwater world through PADI training in the 90s. We have a responsibility to preserve the aquatic environment. Project A.W.A.R.E. (Aquatic World Awareness, Responsibility and Education) is our 10-year plan to accomplish this.

Education

Education is PADI's field of expertise, and it is the most important aspect of Project A.W.A.R.E. Through our publications, new training materials, advertising, publicity and presence at trade and consumer dive shows, we will stress the diver's role in preserving the environment. We hope that Project A.W.A.R.E. will be a rallying point for our more than 28,000 members and 1,400 Dive Centres worldwide, who will instil in their students and customers good environmental sense along with safe diving practices. We want PADI divers to be welcome guests wherever they venture.

Communication

PADI's network of diving and marine professionals is international and extensive. We've created an environmental Advisory Committee comprised of leaders in the marine sciences and environmentalism to help guide our efforts. We're also actively encouraging other environmental organisations to use our network and communications to reach divers and diving professionals worldwide. PADI can provide a link to millions of divers, who by their very nature are concerned about the environment. We will survey our members on an ongoing basis to explore the issues that are most significant to them and act accordingly on their behalf — whether it be through education, legislative efforts or taking a corporate stance.

Action

We continually monitor legislation regarding diver safety, divers' rights and its members' interests, and try to respond quickly when needed with effective lobbying at all levels of government. PADI will also serve this "watch-dog" role on environmental legislation, particularly those issues that directly affect divers. At the grassroots level,

NEWS & VIEWS

PADI will inform its members of important legislation and activities regarding aquatic resources so that they may take action as they see fit. In terms of "hands-on" participation, PADI is working to organise its global membership to participate in an annual worldwide shoreline clean-up. Other such activities will develop as the program matures.

Commitment

This brochure was printed on recycled paper. January 1990, PADI Headquarters switched to recycled and biodegradable products in nearly all its operations. This includes using shredded paper instead of bubble wrap in shipping, printing as many of our brochures, flyers and stationary as possible on recycled paper, and even banning plastic cups from our employees' lunchrooms. We encourage other recreational diving businesses to follow this example, and will be happy to supply information on the sources of such materials upon request to interested companies.

For the Rest of This Century

It's fitting that Project A.W.A.R.E. occupy the last decade of the 20th Century so that the 21st Century might mark a new beginning. Recent popular interest in environmental issues has PADI optimistic that divers can make a difference. PADI is not trying to clean up the world. We're not big enough for that. But we are dropping pebbles into the water and letting the ripples spread. With **Awareness, Responsibility and Education**, hopefully this can add up to a tidal wave of action.

You did it for the whales

PADI INTRODUCES UNDERWATER PHOTOGRAPHY: CAMERA BASICS AND EQUIPMENT CARE

PADI debuts its new underwater photography series with the introduction of Underwater Photography: Camera Basics and Equipment Care, a guide on the care and use of the popular Nikonos V camera. Written by renowned underwater photographer Geri Murphy, Underwater Photography: Camera Basics and Equipment Care advises beginning and experienced photographers on what they need to know to maintain and operate the Nikonos V. Geri Murphy includes important discussions on assembling a photo tool kit, travelling with camera, film selection, equipment assembly and first aid for a flooded camera.

The first book in the new PADI Underwater Photography Series, Underwater Photography: Camera Basics and Equipment Care is appropriate for self study or use in an underwater photography course. Underwater Photography: Camera Basics and Equipment Care is available at your local PADI Dive Centre. Check your Yellow Pages.

SEE THESE FISH

*See these fish,
they make me smile.
Let's give them two new experiences —
the feeling of capture and release.
See this cow fish,
its quivering fins no match for my clasp
I hold it gently but I hold it.
On its release the bright yellow tail so fast
in its slow departure
I am greedy for this visual feast.*

*See this sea horse,
it is frightened
I am frightening it
I am holding it firmly
Having a good look at its terrified eyes
I am greedy for the sea horse
I let it go.
It swims frantically away
I know I won't hurt it,
but didn't I hold it, firmly
and stare into its mystified eyes?
It had no capacity to understand
I shouldn't hold it
But I must
I am greedy — never satisfied with my feast.*

Maureen Bryan, Lorrain McShane

THE DOLPHIN CONFERENCE

*Weep an emotional ocean
O wise unlearned one!*

*And the current of your godsent tears
Will carry us with you
Through the deeper fears
And we will glimpse the kin of our
creation*

*That you will show us are there
And we will swim and swirl
And be as one*

*And we will breach from the water
With our tears
And the tears of the ocean
Streaming about us*

*And we will never again
Be able to conceive of
Dolphins in the dry.*

*We can write and research
We can talk and teach
But without the tears
We will never reach down
To the watery soul of a dolphin.*

*Weep an emotional ocean
O wise unlearned one!*

*You will not be weeping alone,
The world will weep with you
And the dolphins will thrive
And mankind will revive
In an emotional ocean of peace.*

*Maxi Grace,
August, 1988.*

The new decade holds the promise of new technology to take mankind deep into the oceans for longer and uncover objects lost or animals never dreamed of.

The best way to preview that future of diving is to go to Scuba Expo '90 in Sydney July 19-22 and attend the Underwater Congress and Film Festival.

While the 1980s saw science fiction feats such as finding of the Titanic at a depth of almost four kilometres, what will the 1990s bring?

Scuba Expo '90 will explore the very deepest oceans, bring to life bizarre creatures and participate in the hunt for one of the world's richest underwater treasures.

Speakers at the Underwater Congress and Film Festival include Dr David Gallo of the Woods Hole Oceanographic Institution, the research foundation whose technology found the Titanic.

"In terms of understanding the earth, three-quarters of the planet is covered by ocean," says Dr Gallo. "Up until this date we have seen less than one-tenth of one per cent of the deep sea. So we don't really know what exists there. We are still in the exploratory stage of the deep sea - the Captain Cook phase."

"Every time we go out on an expedition we find something new. In my own personal case we have found shipwrecks but we have also found mountain ranges that have never been seen before."

Dr Gallo will speak and use slides and film to paint a picture of the oceans - which he calls the earth's lungs - and what technology will bring to the deep diver of the future.

He'll describe how you could pilot a deep sea probe from your armchair at home with a pair of headphones, a joystick and a video monitor.

Jacquie Morris, Scuba Expo Manager, says the Underwater Congress and Film Festival section of Scuba Expo '90 will for the first time be a travelling show.

(Jacquie is the full time manager for the Scuba Expo and is the executive manager of the expo organising body, the Diving Industry and Travel Association.)

"We're taking the show on the road, running the congress and film festival for one night in every state capital," she says.

Dr Gallo and two other top international speakers and their film/slide shows will visit Perth, Adelaide, Hobart, Melbourne and Brisbane before linking with the main Scuba Expo '90 in Sydney.

"We thought it would be a great idea to give everyone a chance to see these speakers and films," Jacquie Morris says. "You'd have to agree this makes it a truly national Congress and Underwater Film Festival."

"The speakers are top class, a mixture of international flavour without forgetting our own home grown experts. We were particularly pleased to get Dr David Gallo to agree to travel round Australia. We expect great interest in what he has to say and show on the screen given the excitement caused by the finding of the Titanic."

South Australian underwater explorer John Bent will tell how he and his dive store partner Paul Lunn found a sunken Spanish treasure galleon which could be worth hundreds of millions of dollars.

They have won access to the shipwreck, the Nuestra Senora Del Pilar, off Guam in Micronesia, after years in the courts.

—UNDERWATER CONGRESS— AND FILM FESTIVAL '90



Judith McDonald from Scuba Warehouse, David Gallo and Malcolm McGuire, publisher of Scuba Diver magazine. Michael Buesnell from Atlantis Divers, Palm Beach together with Jacquie Morris, Executive Manager of DITAA and Scuba Expo Manager.

The ship was carrying 1.5 million silver coins, now valued at \$200 each, and an unknown amount of gold coins and bullion.

John Bent, who recently returned to Guam to arrange the archaeological survey necessary before excavation can begin, will give an exclusive run down on the prospects of this historic treasure ship.

"This talk is expected to be a real eye opener because John Bent and Paul Lunn have had, until now, been very close to the chest about the shipwreck because of the legal challenges to their rights," says Jacquie Morris.

Reg Lipson, who runs a successful program on natural history for divers, and is one of Australia's best known diving personalities, will give an entertaining presentation on the strange habits of marine life.

A diver since 1959, he has spent long hours underwater recording what he sees with slate and camera - amassing a collection of thousands of colour slides.

"He brings alive the seemingly mundane with his tales of the relationships between the species," says Jacquie Morris. "He's a much loved regular participant in the annual Scuba Expo."

The three speakers will be complemented by the latest work from Emmy award winning underwater cinematographer Stan Waterman.

He got his first Emmy in 1982 for a segment on hammerhead sharks and manta rays. This time Australian audiences will see "The Cayman Experience," a documentary on the finest diving in the Cayman Islands.

"This is the superb quality film making you expect from an internationally acclaimed cinematographer like Stan Waterman," says Jacquie Morris. "People will be talking about it for weeks."

On top of the Underwater Congress and Film Festival, the diving industry is putting together the largest display of underwater equipment in Australia at the Scuba Expo '90 at the R.A.S. Showgrounds in Sydney.

Hundreds of experts have been involved in making the Scuba Expo '90 something special to mark the start of the last decade of the century.

On display will be the latest innovations in

technology and, for the first time, there will be swimming pools where diving events will be held - such as an underwater chess tournament.

Among the equipment this year will be dive boats and four wheel drive vehicles to get your vessel to the water.

David Balsom, the president of the Diving Industry and Travel Association, says Scuba Expo '90 is a unique opportunity for the diving industry, the diver and the public in general to be together for the largest and best organised dive exhibition and conference ever held in Australia.

"Scuba Expo '90 will be an adventure for the diver and a window to a new universe for the aspiring diver and armchair traveller," he says.

"If you don't do anything else in 1990, go to Scuba Expo '90."

UNDERWATER CONGRESS & FILM FESTIVAL DATES VENUES AND TIMES

Perth - Mon. 16th July 1990 - Cygnet Cinema, 16 Preston Como, Perth WA 7.30pm - 11.30pm
Adelaide - Tues. 17th July 1990 - The Adelaide Convention Centre, North Tce, Adelaide SA 7.30pm - 11.30pm
Hobart - Wed. 18th July 1990 - The Southern Teachers Centre, 2 Edwards St, Glebe Hobart Tas. 6.30pm - 10.30pm
Melbourne - Thurs. 19th July 1990 - Blackwood Hall, Monash University, Wellington Rd, Clayton Melbourne Vic. 7.30pm - 11.30pm
Brisbane - Fri. 20th July 1990 - Mayfair Crest International Hotel, King George Square, Brisbane Qld. 7.30pm - 11.30pm
Sydney - Sat. 21st July 1990 - Science Theatre University of NSW, PO Box 1, Kensington, Sydney NSW 7.30pm - 11.30pm

SCUBA

EXPO

'90

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R.A.S. Showground July 19-22, 1990

UNDERWATER GEOGRAPHIC

The Only One
of its Kind!

NEWS

PRO DIVE TWEED HEADS

NEW DIVE SHOP ON THE RISE!

Thousands of people holiday on the Gold Coast every week whether from overseas or from around Australia to enjoy what the tourist capital has to offer. It might be stepping out into the fast moving night club scene or relaxing on the famous white sandy beaches that run the entire length of the tourist strip.

There are however only the fortunate few who get to see the other half of the Gold Coast and that is underwater where there is as much to offer as there is on the surface.

Just minutes south of Surfers Paradise is the Queensland-NSW border and this is where the best diving takes place.

Coolangatta - Tweed Heads is the centre of a very active diving community and for years divers have been exploring the miles of reef that extends out to sea behind the breakers. These areas include larva formed bommies and caves along with 100 year old wrecked steam ships and the peaceful tranquility of Cook Island.

The location has a large variety of both northern tropical fish and corals along with the southern temperate sea life. All of this can be found in one area due to both the warm ocean current that

runs down off the barrier reef and the relation to the southern latitude of Tweed Heads.

Most of these dive sites which lay a short distance off the coast however are really only accessible by boat. Bookings usually need to be made to secure a spot on a boat through the local dive shop PRO DIVE TWEED which runs two fully surveyed vessels out to the reefs daily.

These boats include an 8 metre Cougar Cat with all the latest comfort and equipment including a colour sounder so you can see exactly what your diving onto. The other vessel is a 7.8 metre aluminium central consol set up especially for the divers needs and can be trailered to the best location if needed.

Both boats are skippered by two very experienced divemasters who have dived the area for up to 15 years taking you to the best location on the day which at most is only 25 minutes from the shop.

PRO DIVE TWEED has been the only shop established in the Tweed/Coolangatta area for around 15 years, formerly trading as The Tweed Dive Shop and just last year joining the network of 20 strong Pro Dive stores throughout Australia.

Being only five minutes drive from the Coolangatta Airport and less than an hour and a half drive from Brisbane, lends itself to being the ideal dive holiday or weekend retreat.

Accommodation runs from luxury resort apartments to well kept camping areas and one room self-contained units, all reasonably priced and able to be arranged through the Pro Dive shop.

The area is in fact well supported by Pro Dive which is a professional facility providing a large range of the latest hire and retail equipment, backed up by qualified equipment service technicians. The club room facilities are open to all visitors who wish to take in a dive video while waiting for tanks to fill or have a hot shower and coffee after returning from a dive.

PRO DIVE TWEED reports on local dive conditions regularly through Ken Brown's Coastwatch on Channel 7, 4KQ and the Court Mail or the local Gold Coast Bulletin on Fridays. Live reports can be heard on the Gold Coast's FM radio station 90.9 Sea FM by the Divemasters direct from the dive boats.

Pro Dive Tweed Heads, Shop 1, 133 Wharf Street, Tweed Heads, NSW 2458. Ph: (075) 36 9622



"The nature of underwater is your business!"

We must fight! for its preservation

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10,000,000 Australians have little understanding of the underwater environment

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THE DIVER'S JOURNAL

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All entries must be from Underwater Geographic Magazine subscribers. **FREE!** Dolphin poster to all new subscriptions received. (Add \$5.00 to Subscription (e.g. \$30.00, (A\$35.00 O/seas) for Post/Pack of **FREE!** "2nd International Dolphin & Whale Conference" Dolphin poster 20" x 30". (Retail price \$15.00)) in this competition.

Name: Address:

..... Postcode:

Phone:

MORETON BAY RESOURCE KIT

The Australian Littoral Society is a national organisation of Australians who care about life in our rivers, coastal waters and coral reefs. One of the most important roles of the Society is to provide information to help people better understand the conservation problems affecting aquatic life.

The Moreton Bay Resource Kit has been developed to provide resource material about Moreton Bay and its islands for teachers, students and the interested public. Teaching units based on the Kit are in preparation.

A set of 24 slides with brief notes has also been prepared. The slides include aerial, landscape and underwater photographs showing various features and human use of Moreton Bay.

CONTENTS

Maps:

- Northern Moreton Bay
- Southern Moreton Bay
- Sunmap Boating and Fishing Guide to Moreton Bay

Leaflets:

- Introduction to Moreton Bay
- Islands of Moreton Bay
- Rocky shores and sandy beaches
- Mangrove communities
- Seagrass and intertidal flats
- Freshwater environments
- Birds of Moreton Bay
- Vertebrates of Moreton Bay
- Conservation and management of Moreton Bay
- Useful lists

Additional published brochures

The preparation and publication of the Kit has been partially funded by the Australian Bicentennial Authority.

COST: Moreton Bay Resource Kit - \$25 plus \$2.50 to cover postage, etc.

Slide set (packaged separately) - \$30 plus \$2.50 postage.

**UNDERWATER
GEOGRAPHIC
COMMUNITY
SERVICE**

Please forward . . . copies of **The Moreton Bay Resource Kit** at \$25 each.

. . . sets of **Moreton Bay Slide Set** at \$30 each

Payment enclosed: \$

Underwater Geographic

\$ for postage (10% of order)

\$ TOTAL (Cheques payable to Aust. Littoral Society).

Name:

Address:

Postcode:

Return to **Aust. Littoral Society, P.O. Box 49, Moorooka, Q. 4105**

FREE!

LISTINGS OF ALL ENVIRONMENTALLY CONCERNED SALES OUTLETS SELLING UNDERWATER GEOGRAPHIC AND NEVILLE COLEMAN BOOKS. KEEP DIVERS DIVING! . . . SELL UNDERWATER!



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Letters — Letters — Letters — Letters

BECOME A DIVER

I have just re-read an article by John Litchen in Issue 22 entitled "Why So Many Dropouts?"

I agree wholeheartedly with John's views. His observation that the real diving environment has little in common with that which the trainee experiences during the training sessions is, I believe accurate.

I came into sport diving as a complete novice in 1975, never having had any spear fishing or snorkelling experience. I did my training in the relative comfort and safety of a heated swimming pool. Although I received my certification, an F.A.U.I. "C" Card, I believe I was not prepared mentally for the actual rigours of open water diving. My first encounter with an open water shore dive left me exhausted at the waterline without even completing the dive. My "buddy" on the day was a senior diver who was unaware that I was a novice! He suggested that I enter the water and wait, because he had not finished gearing up. So off I went, penguin fashion (fins already on). Now it must be almost impossible to walk head first into surf wearing fins, however I was at this point grossly unaware of this very salient point. I persevered, time after time I was knocked over by the waves, I struggled to my feet only to be knocked down again. I don't remember actually how many times this happened, all I remember is as I lay exhausted at the waters edge, having a tiny nagging doubt that perhaps there was a point or two that the diving course had not covered.

I learned something that day as I have learned virtually on every dive since. My early excursions into the ocean were tentative, exhilarating, frightening, awesome, wonderful. The spectacle magnificent (sometimes invisible — bad viz). Over the years since I have had magical moments underwater. I have been frightened to death, chilled, thrilled, had contact with creatures primitive, basic and creatures with, I'm sure as much, if not much more, intelligence than us humans. The ocean has given me much more than she has ever asked from me.

I don't dive every second Sunday (or at least attempted to) any more. My lifestyle has changed.

At first we were like new friends the ocean and I. We spent a lot of time together. Now we are like old friends. I don't have the time I used to. Our relationship has changed. I know her better. I respect (deeply) her moods, her power. She calls to me now two or three times a year and I dust off my gear, ring up an old buddy and off we go. It's a much more relaxed affair now.

If you've done a diving course recently and are having doubts about continuing, persevere, but remember to treat the ocean with the utmost respect. Be careful, don't dive if it's against your better judgment. If you're not completely comfortable, forget it, go home, come back another day. Get information from experienced divers. Don't

get too tied up with the technicalities of diving, the subcutaneous emphysemas and the dysbaric necroses. Find out as much as you can about the craft of diving. The effect the wind, the waves, the currents, the tides have on diving. How to navigate underwater. Points of entry and exit on shore dives.

If you do persevere with diving I'm certain that it will be to your ultimate benefit, not only will you have some memorable adventures, you will become a different person through your experiences with the ocean. You will, I assure you, experience a range of emotions that you are probably unaware lurk inside you, and if you persevere long enough you will become a lifelong friend with a deep respect for the ocean and most of the things that dwell in it.

Referring back to John Litchen's article in Issue 22 "Why So Many Dropouts," he suggests, and I again agree with him, that people with a background of snorkelling or spear fishing seldom drop out of diving. May I suggest if you are contemplating a scuba course and have not dived before, obtain some snorkelling gear and go and check out the nearest available reef or beach. This way you may save yourself the time and expense of a diving course and its related paraphernalia if you find it's not your cup of tea.

However I hope you find that you are at the gateway of a very exciting adventureland and proceed with added haste to do a dive course.

Bon adventure.

R. Boyce,
4/4 Woods Avenue
Mordialloc 3195

APOLOGY



I would like to apologise to any persons inconvenienced by any inconsistency in our Subscription or Dive Shop supply department to maintain accurate, up to date marketing information.

Any misunderstandings will be rectified and records amended as of U/W/G 29.

UNCLAIMED MONEYS, etc.

We have on file dozens of cheques, letters, M/S which have been returned by post due to unknown address etc. If there is anybody who has not received payments or materials please write and let us know.

Address for John Batty of Cairns? would be appreciated if anybody knows his whereabouts.

Nature

HOW ABOUT IT
EARTHLINGS!

PROTECT FLINDERS REEF

PO Box 102
East Brisbane
Qld 4169
31 October 1989

The Editor
Underwater Geographic
PO Box 702
Springwood, Qld 4127

ATTENTION: Mr NEVILLE COLEMAN

Dear Neville

Re: FLINDERS REEF, MORETON BAY, QUEENSLAND

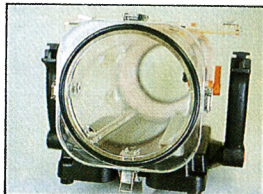
Having dived numerous times on and around Heron Island which carries National Park and Marine Park status, I can't help but compare the diving on Flinders Reef (northern end of Moreton Island, Queensland). On Flinders Reef I have seen one boat's heavy metal anchor and chain crash through the coral gardens as many as four times in one day; multiply this by as many as a dozen boats on a hot summer's day. I have seen live shells and hermit crabs taken aboard; I have seen unlimited crayfish caught and stored. How long will Flinders Reef be one of the premium dive sites in Brisbane, if this behaviour continues?

What a contrast to Heron Island where permanent moorings protect the corals from anchor damage and the reefs have a "look, but don't touch" status. Management of Moreton Bay is currently under review by the authorities - however, National Park and Marine Park status for Flinders and surrounding reefs seems a long way off. In the meantime, are there any other divers, dive clubs or shops out there who share similar concerns? If so, I would love to hear from you, especially those of you who have positive and practical suggestions on how we can protect our reefs from further destruction.

Yours sincerely
Rana E. Jewell

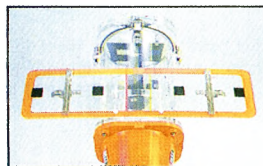
H E R O N

I S L A N D
GREAT BARRIER REEF AUSTRALIA



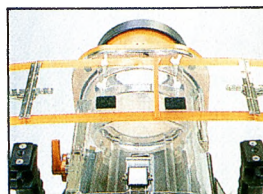
SAFE, DURABLE. RUST-PROOF DESIGN

The underwater video camera housing is designed for use up to a depth of 50m. The central cylinder is made of mono-block transparent acrylic plastic, the front, is of mono-block ABS resin cone. The transparent acrylic rear plate provides a seal allowing the O ring to be inspected from the outside for safety.



STABILIZER WING

Unwanted movement of the video camera is minimised by a detachable horizontal wing with grips located on both sides. In addition, the stabilizer enables the camera to ascend and descend smoothly in spite of hydraulic pressure.



ANGLE SCALE

The angle of shooting is shown on the horizontal wing, providing a useful guide for framing.



The power switch of the video camera can be manipulated from outside the housing to save energy. (The position of the power switch varies depending on the video camera.)



The recording lever, located in the right-hand grip of the housing, can be manipulated by the forefinger when the hand is on the grip. The housing can be held firmly in both hands for stable, timely shooting.



This full-fledged submarine housing for video cameras enables underwater shooting to a depth of 50m, providing vivid video recording of the exciting and mysterious depths. Compatible with most video camcorders!

PAN FOCUSING

Pan-focusing solves focusing problems without relying on the video camera's autofocus mechanism. The camera converts to a fixed-focus camera. Pan-focus photography can be complemented with the use of the wide converter if sufficient illumination is available.

AUTO FOCUSING

Auto focusing can be done just as it is on land. (Please note that autofocus does not work underwater on some video cameras.)

VIEWFINDER

9-1 Depending on the camera being used, the viewfinder can be housed as it is on the camera.
9-2 The viewfinder can be dismantled from the camera and moved to a designated point inside the housing.

COLOUR TV MONITOR

The small monochrome viewfinders on most video cameras are difficult for a masked photographer to use. To provide better imaging a 3" colour LCD monitor can be mounted in the rear of the housing. The monitor's power switch can be manipulated from outside the housing.

CLEANING KIT

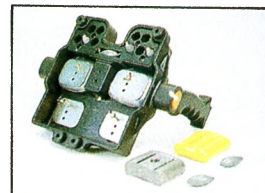
A cleaning kit with maintenance supplies is provided for all models.

QUALITY INSPECTION

All housings are inspected in a high-pressure water tank and come with a certificate of inspection.

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Marine light 1080 a powerful 100 watt underwater light using a 12 volt nicad battery.



WEIGHT BALANCE

The weight house has been newly designed to provide delicate balance control underwater and to be light on land. It is located at the bottom of the housing, can store up to four 1kg diving weights and up to eleven 70g adjustment weights (both optional) for delicate balance control.



WIDE CONVERTER LENS

A 0.42x semi-fisheye converter lens, which more than doubles the angle covered, is also provided. (Not available all models.)



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You'll have a good time, too, with the Liberator TR-200 regulator. Rated at 4000 PSI, with a swivel top that rotates a full 360°, the TR-200 features two high-pressure and four low-pressure ports, plus a purge slide-lock to relieve pressure on the demand valve during storage. Hypo-allergenic silicone parts resist UV and salt damage.

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Tabata
Liberator Series